

THE
FUTURE
IS
WHAT
WE
MAKE IT

Honeywell

HONEYWELL WMS INTRODUCTION FOR ECOFAMILY



AGENDA

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Thank You

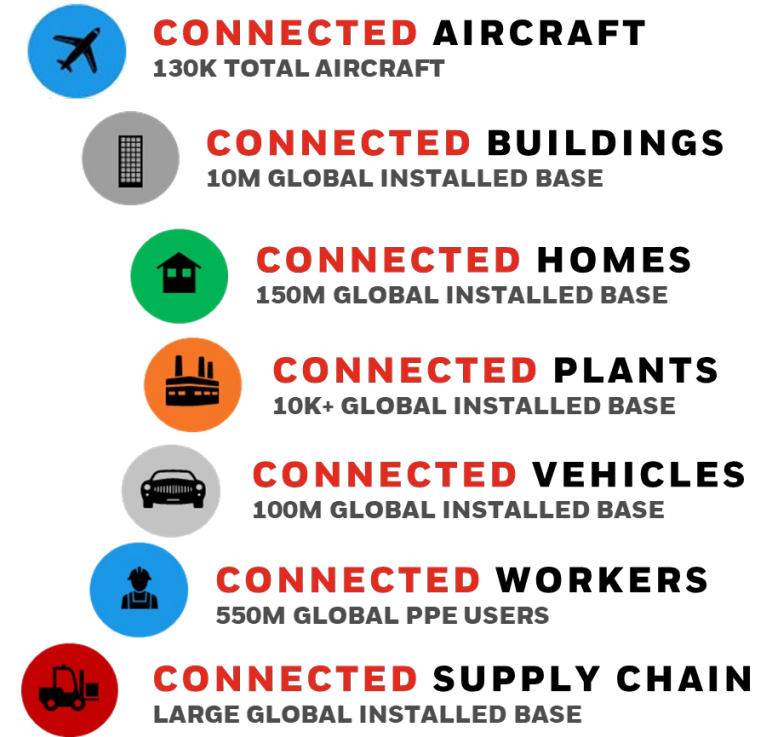
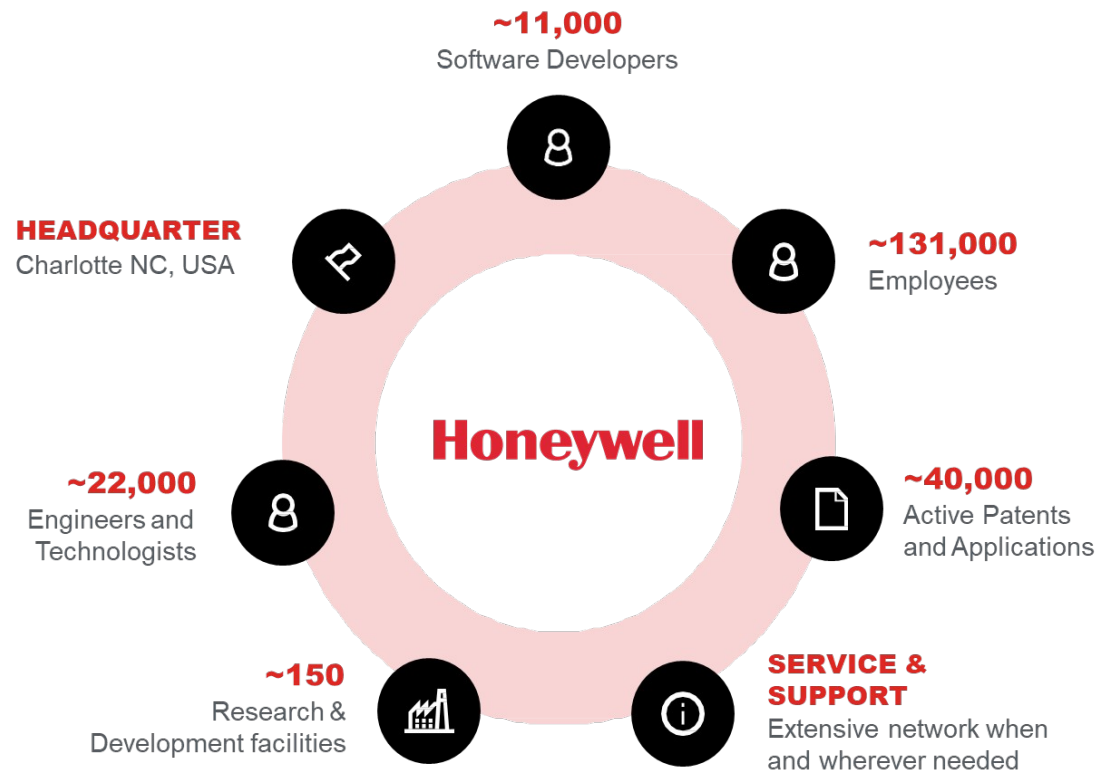




EXECUTIVE SUMMARY

A Honeywell Logistics Solutions Presentation

THE POWER OF HONEYWELL



Honeywell Connected Enterprise

Honeywell Connected Enterprise (HCE) was established in 2018 to accelerate software development and IIoT solutions. We focus on software development, from the gateway to end-user applications, bringing scale and capability across all of Honeywell. These new offerings are then commercialized through Honeywell's businesses.

Aligned to Global Macro Trends

HONEYWELL END-TO-END LOGISTICS SOLUTION



Edge Applications and Devices

Cloud-based Applications
Forktruck Terminals
Light Directed Work
Printers
Scanners
Voice Directed Work



Intelligrated



Vocollect - Voice Picking



Automation:

- Storage □ Space Utilization, Storing/Retrieving Efficiency
- Transportation □ Manpower, Efficiency
- Picking □ Manpower, Efficiency, Accuracy
- Sorting □ Manpower, Efficiency, Accuracy

WMS:

- Managing Inventory, Locations, People, Man-ed MHEs, Automated MHEs / Robotics ... to fulfill Orders by optimizing Efficiency and Accuracy
- It's the brain, suggesting best way to putaway, and best way to fulfill outbound orders, instructing people or machines to execute the tasks.

HONEYWELL LOGISTICS SOLUTIONS

- **19** years in the Logistics business
- **1,000+** customers globally
- **200+** customers in Retails/Wholesales
- Installed in **2,400+** whs. / DCs
- Managing **24M+** sqm. of whs. / DCs
- Customers in **22** countries around the world
- Single warehouse daily processing order peak of **1.6 M+**

+

ABInBev

Coca-Cola

中糧
COFCO

durex

P&G

Unilever

FamilyMart

rb
HEALTH • HYGIENE • HOME

MR.D.I.Y.
Always Low Prices

MeadJohnson
Nutrition

Dettol

Samsonite

ลูก-ดัด
มีมาตรฐาน

dynadrug

AIR WICK

Scholl

NEO
บริษัท บีโอ คอร์ปอเรชั่น จำกัด

CJ
Express

CSM

KING POWER
CLICK

Honeywell | Effective & Efficient Orders Fulfilment



E-Commerce



Apparels



Pharmaceutical



Retail



Cold Chains



Manufacturing



3PL

Honeywell WMS

Inbound

Advanced Shipping Notice
Inbound QC Inventory Management
Putaway

Operating Rules

Putaway Provisioning Delivery Sorting QC Wave Pick Replenishment Barcode Timer Inventory rotation In/out bound

Storage

Inventory adjustment Inventory balance Inventory move Inventory mgmt Stock Transfer Inventory hold Inventory Release Inventory Transaction

Outbound

Delivery order Wave planning Picking/Review Packing/Grouping Outbound Value Added Services Kitting/Dekitting Labelling Re-Packaging Customized Packaging

OMS
Order Management Sys

RSS
Return & Sorting Sys

Datahub
Data Exchange Platform

Octopus
SC Visibility & Collaboration

IFS
In-Store Fulfillment Sys.

TMS Transportation Management System

Order Mgmt

Line Coordination

City delivery

Trunk Transport

Dynamic monitoring of delivery

Delivery Acceptance & Collection

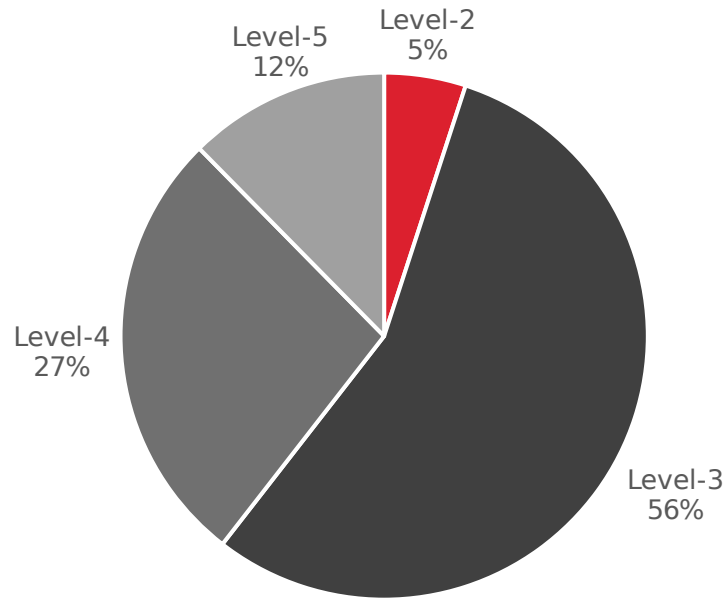
Freight Accounting

Fleet Mgmt

Order split-out & consolidation

CUSTOMER COMPLEXITY ACCORDING TO GARTNER'S DEFINITIONS

The number of customers in each Level Warehouse Operation



■ Level-2 ■ Level-3 ■ Level-4 ■ Level-5

Level 2 : 51 customers

Core function module, standardized operation process, system guidance operation, support paper sheet operation or part of RF operation. This kind of customers are mainly Honeywell WMS's earlier customers, including 3PL with a simpler model., distributors etc.

Level 3 □ 565 customers

For this level of customers, WMS mainly focuses to drive the entire operation process by using system, so that the warehouse is transformed from a manpower experience model to a model based on barcode management model. In this type of warehouse, most of the warehouses will use RF technology, and a few will use Voice or Pick-To-Light technology to achieve real-time interaction between the system and warehouse operator.

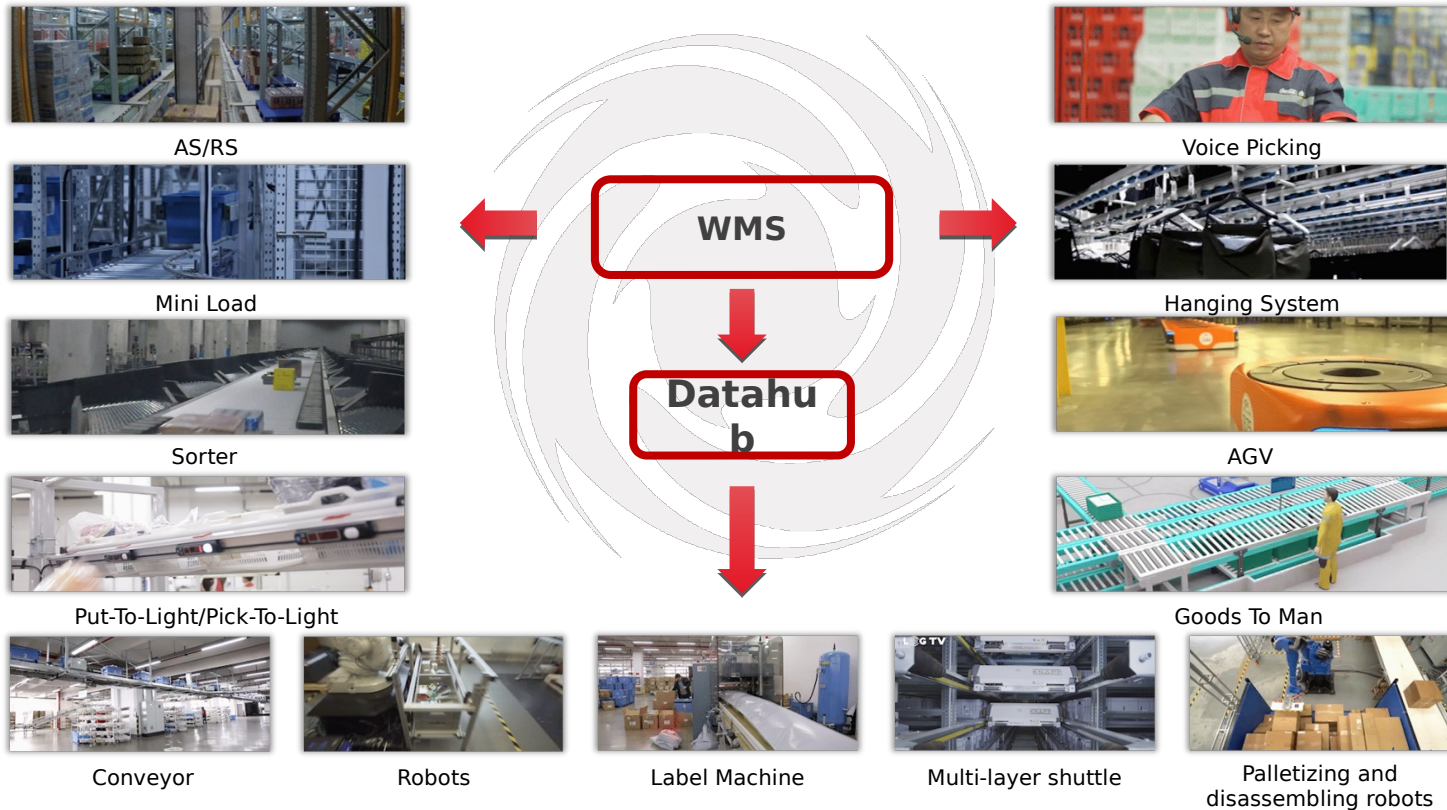
Level 4 □ 276 customers (38 added in 2022)

In response to the needs of customers at this level, more attention is paid to optimize the operation process, more application of automation equipment, support for complex operation processes, and more extended functions. For example, FLUX WMS provides Appointment Management, Yard Management, full traceability for Serial Number or Lot, Value Added Service (Kitting and Deking), Cost or Billing management. Through the built-in Gem Report tool, it supports the design and display of complex reports and Dashboard, improves the visual management of the warehouse, and realizes functions such as statistical analysis and decision support.

Level 5 □ 126 customers (47 added in 2022)

The application of automation equipment is more common for this level of customer. WMS can be integrated to various automation equipment via vendor's WCS s or WCS developed by Honeywell WMS. The supported equipment is more extensive, such as AS/RS, Miniload, Shuttle, AGV, Sorter, Picking Robot, etc. WMS still plays an important role in arranging and distribute work tasks from a centralized perspective, so that equipment can be highly coordinated to maximize the production capacity of equipment, with special emphasis on the balance of workload in each area. In some projects, we also used algorithms to optimize the scheduling of dozens of AGVs or Shuttles

MHE & Robotics | Important but not sufficient



Automation:

- Storage □ Space Utilization, Storing/Retrieving Efficiency
- Transportation □ Manpower, Efficiency
- Picking □ Manpower, Efficiency, Accuracy
- Sorting □ Manpower, Efficiency, Accuracy

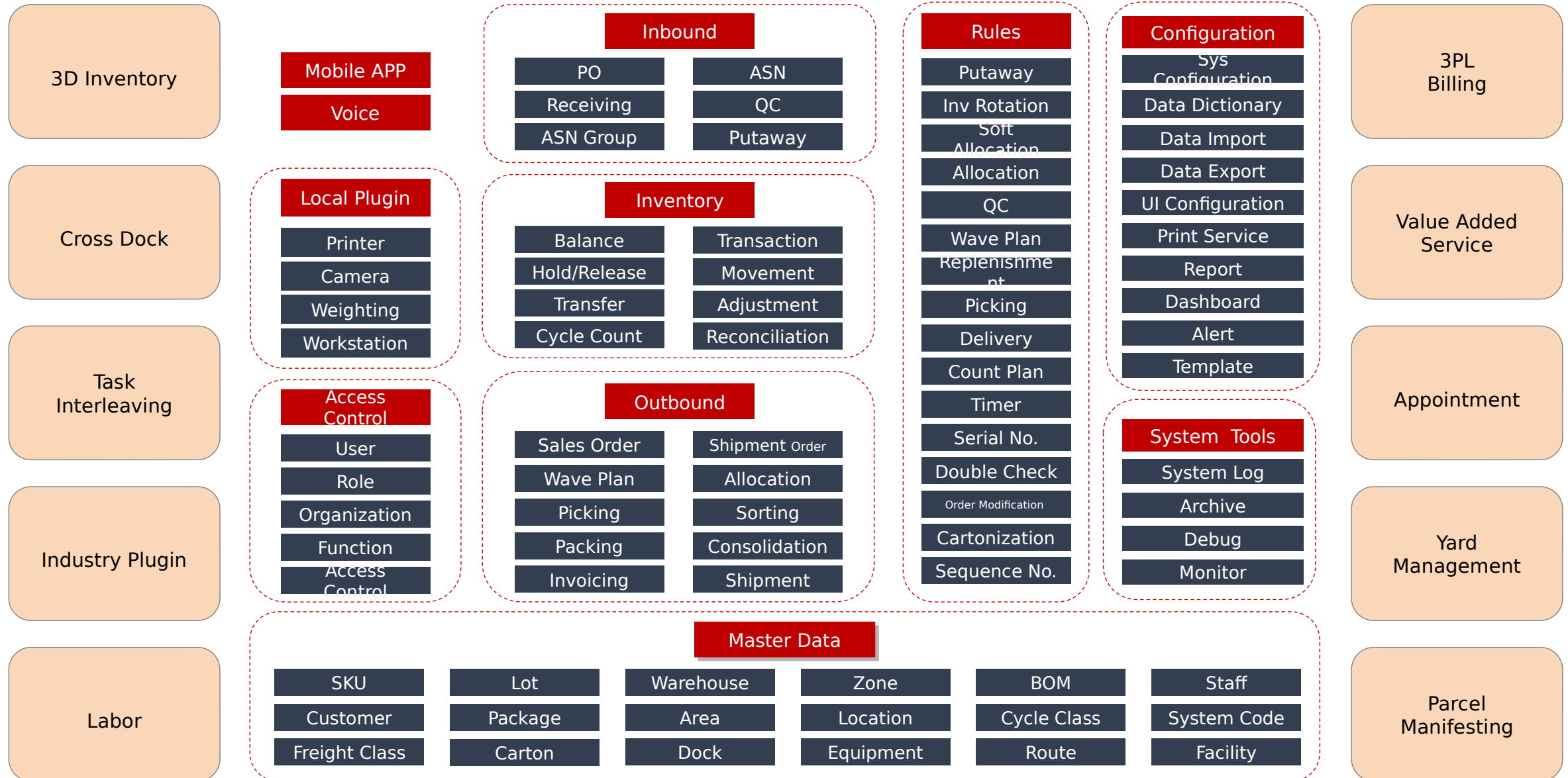
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- It's the brain, suggesting best way to putaway (determines your outbound efficiency), and best way to fulfill outbound orders, instructing people / MHEs / Robotics to execute the tasks.

Honeywell Datahub



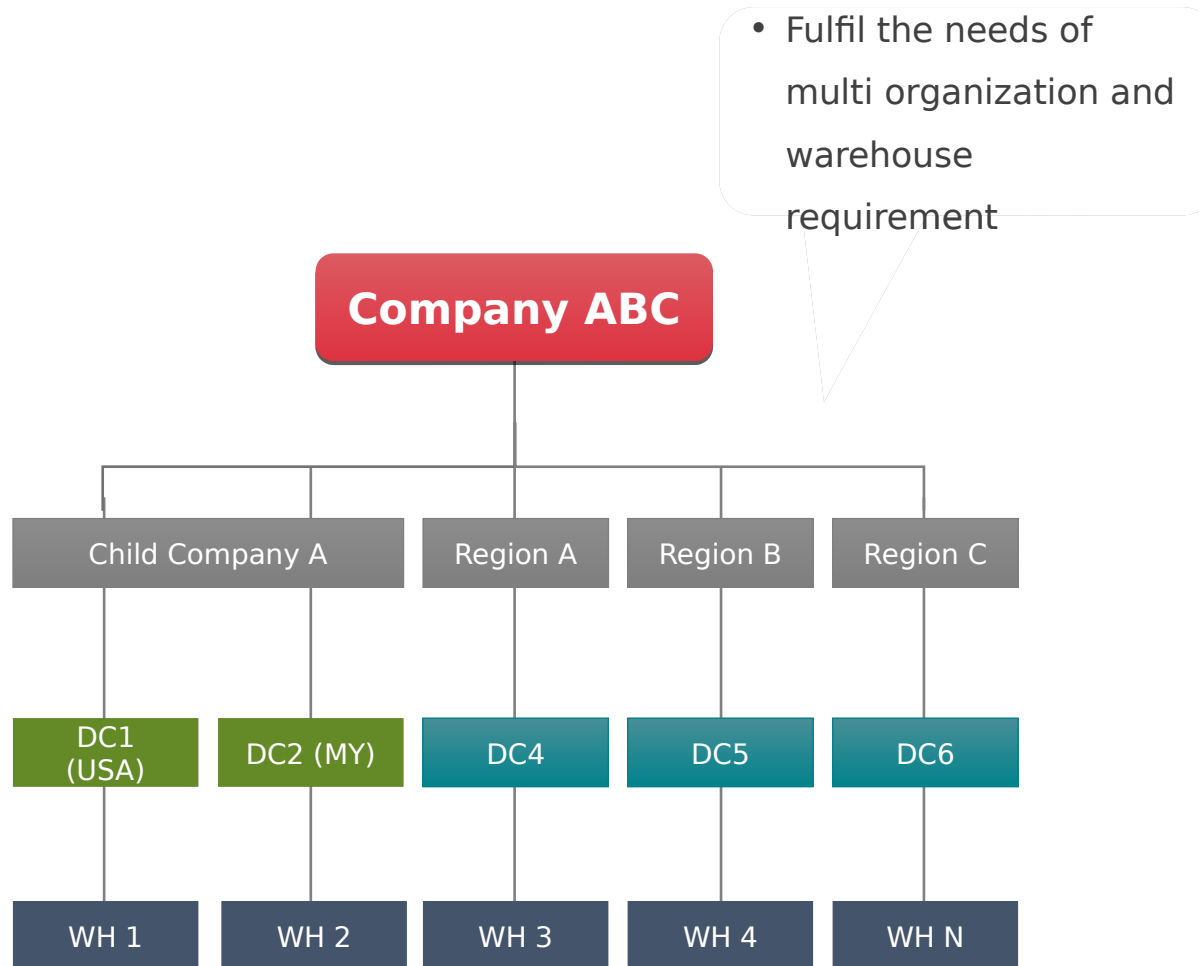
HLS WMS – BUILT FOR DIFFERENT TYPES OF WAREHOUSES



DON'T GET **HANDCUFFED!**
---WHY HONEYWELL WMS IS YOUR CHOICE!



Multi Organization ID, Warehouse ,Customer ID



■ Multi- Warehouse Operation Management

■ Support multi layer management control

- Company
- Region
- DC
- Warehouse
- Customer/Zone Group/Location

■ Role Authorization Management

- Assign based on role in the organization

■ Inventory in a Glance

- Different dimension on stock balance check

■ Transfer within Warehouses

- Transfer stock between warehouses
- Ownership Transfer

■ Owner of the Goods (Customer):

- Each SKU has thier own Customer ID
- Support 1 SKU to have multiple Customer ID.
- Each of the Customer ID has thier own receipt/document design
- Each of the Customer ID can have different strategy

Internationalization

■ Multi-Time Zone

Time zone based on user selection.



■ Multi Date Format

Global Date Format

DD-MM-YYYY
YYYY-MM-DD
YYYY/MM/DD
YYYY.MM.DD
MM-DD-YYYY
MM/DD/YYYY
MM.DD.YYYY



■ Multi-Language

1. English
2. Chinese
3. Thai
4. Bahasa Indonesia
5. Vietnamese

PROCESS CONFIGURABLE - PARAMETERS

Honeywell WMS					
System Config					
Add Copy Delete Print Operation Export Edit ...					
Config ID	Config Descr	Conf...	Category	Default Value	Active Flag
☐ 1ST_SEG_OPT	First Segementation before PTL operation	100	INB-Sowing	Y	Y
☐ 3PL_BIL	Billing Config	100	COM-Bill	N	Y
☐ ADJUSTMENT_A...	Automatic close adjust document after adjustment	100	INV-Adjustment	Y	Y
☐ ADJ_HLD_INV	Allow adjust the qty of inventory on hold	100	INV-Frozen	Y	Y
☐ ALC_AND_PCK	Confirm picking when manual allocate	100	OUT-Allocation	N	Y
☐ ALC_DIM_CAL	Cubic, Gross Weight, et Weight and Price of allocation details calculated from the data of...	100	OUT-Allocation	N	Y
☐ ALC_SOR_LOC	Allow allocate the inventory from sortation location.	100	OUT-Allocation	N	Y
☐ ALT_MSG_TIM	Message Pushing Timer	100	COM-Configure	0	Y
☐ ALT_SKU	Open SKU alias management function	100	COM-Expand	N	Y
☐ APP_DCK_OVL	Allow time window override in dock management function	100	COM-JOB	APP_DCK_OVL	Y
☐ ARC_DB_MAP	Mapping between production DB and archive DB	100	COM-Configure	ARCHIVE	Y
☐ ASN_CLS_CTL	Is ASN with 00 status allowed to close	100	INB-Order	Y	Y
☐ ASN_DSP_LOC	Whether the warehouse acceptance report shows the storage location	100	INB-Print	N	Y
☐ ASN_DSP_QTY	Does the printed storage task list display quantity information?				
☐ ASN_GEN_TID	Generate Trace ID upon Receiving (No Palletize) if no TraceID assigned				
☐ ASN_LNK_QC	ASN generation of quality check sheet automatically jump				
☐ ASN_LOT_CHK	Check lotatt when saving ASN				
☐ ASN_MDT_CHK	The manufacturing date of receiving goods cannot earlier than the manu				
☐ ASN_MOD_ATH	Change attachment when ASN closed				
☐ ASN_MOD_ED1	Allow change the ASN EDI page after ASN closed				
☐ ASN_MOD_SUM	Allow change the summary page after ASN closed				
☐ ASN_RCV_UPD	Update ASN details with received inventory lot attribution				
☐ ASN_RLS_CTL	Default ASN order release status (Y: release)				
☐ ASN_SPL	Create sub-ASN when partially received ASN closed: YES: Automatically				
☐ ASN_SPL_CTL	Supplier Information must be provided				
☐ ASN_SPI_RFI	Does ASN consider the amount of rejection when it closes the generati				

- ✓ Support WCO
- ✓ Warehouse
- ✓ Customer
- ✓ Order Type

Honeywell WMS				
System Code				
Add Copy Delete Print Operation Export Edit ...				
Code Type	Code Type Descr	Show Sequen	Form Details	
☐ ABC_CAL_BAS	ABC Calculation ...	100	Details	
☐ ABC_RNK_BY	ABC Rank By	100	Add Copy Delete Print Operation Export Edit ...	
☐ ACTIVITY_RESULT	Operation Result	100	☐ Customer ID	Category
☐ ADD_TO_SOW	When to generate...	100	☐ *	*
☐ ADJ_HDR_UDA	ADJ_HDR_UDA	100	☐ *	*
☐ ADJ_HDR_UBB	ADJ_HDR_UBB	100	☐ *	*
☐ ADJ_STS	Adjustment Status	100	☐ *	*
☐ ADJ_TYP	Adjustment Type	100	☐ *	*
☐ AFFILIATED_AGE...	Affiliated Gency	100	☐ *	*
☐ ALC_COD	Allocation Rule	100	☐ *	*
☐ ALC_TYP	Allocation Method ...	100	☐ *	*

Customer ID	Category	Code Type	Code ID	Code Descr
☐ *	*	ADJ_STS	00	Create
☐ *	*	ADJ_STS	02	Partial Approved
☐ *	*	ADJ_STS	03	Approved
☐ *	*	ADJ_STS	05	Partial Adjustment
☐ *	*	ADJ_STS	10	Complete
☐ *	*	ADJ_STS	90	Cancel
☐ *	*	ADJ_STS	99	Close

FEATURES: 500+Parameters, Switch on/off to activate or deactivate a business process / logic.

BUSINESS CONFIGURABILITY - RULES

Rich Configurable Rules

Putaway

Quality
Check

Sequence

Serial No

Rotation

Replenishme
nt

Pre-allocation

Allocation

Wave Plan

Wave
Dispatch

Route

Delivery

Auto-
shipment

Schedule
Tasks

The image displays three screenshots of the Honeywell WMS interface, illustrating the configuration of various business rules. The top screenshot shows the 'Replenishment Rule' configuration screen, which includes a 'Query Condition' section with fields for Warehouse ID, MFG, and Replenish ID. The 'Main Info' tab is active, showing details like Warehouse ID, Replenish ID, Replenish Descr, and Customer ID. The middle screenshot shows the 'Putaway Rule' configuration screen, with the 'Rotation Rule' tab selected. It displays a table of rotation rules with columns for Rotation ID, Rotation Descr, Lot ID, and FAM. The bottom screenshot shows the 'Putaway Rule' configuration screen, with the 'Form Details' tab selected. It displays a table of putaway rules with columns for Putaway ID, Line Number, Putaway Rule, Active Flag, Putaway Zone, Source Location, and Destination Location. The interface includes various navigation and action buttons, such as 'Add', 'Copy', 'Delete', 'Print', and 'Operation'.

Rules involve the control of core workflows, users can dynamically adjust those on demand after training.

GUI LAYOUT CUSTOMIZATION

Features

- Support to different warehouses and roles
- Support to user defined GUI Scheme
- Support to scheme Import/Export

Scheme Management			
Form Details		Scheme Application Warehouse	
☐	Scheme ID	Scheme Descr	Warehouse ID
☐	MFG_PO	MFG Purchase Order	MFG

Scheme Management			
Form Details		Scheme Application Role	
☐	Scheme ID	Role ID	Role Name
☐	MFG_PO	BASIC	WMS Basic Role
☐	MFG_PO	MFGINBFULL	MFG Inbound Full ...
☐	MFG_PO	WMSFULL	WMS Full Functio...

Data Source

Adjust the fields or conditions in the list query SQL statement

UDF Grid

Adjust the column headings of the list and sort, add or delete the display columns

UDF Form

Control of form area, add or delete controls, and attribute changes

Hot Key

Add shortcut keyboard operation to function that needs quick operation

Param Config

Control part of business related processes by parameters

OPERATION DOCUMENT MANAGEMENT

H WMS

Attachment DOC Management

File IDFile TypeFile SizeOriginal I

16619144294361...

XLSX

276486

02 Mars_Us

16635614433361...

PDF

155459

Addendum 7

16636529903181...

DOCX

45924

Addendum 7

16618518826381...

PNG

1084771

Weight Scale

HLS_1112221661...

JPG

44937

heart

Form Details

Main Info

User-defined

Other

File ID

Original File Name

File Type

File Size

1663561443336103.195.58.82

Addendum 7-CML - 12May2022_21 Users-X

PDF

155459

Save File Name

File Save Dir

Link Type

Warehouse ID

Addendum 7-CML - 12May2022_21 Users-X

202209

PO

HLS_DEMO

Doc NO

Trace ID

Customer ID

SKU

PO000011

100200300

--

Watermark Location

Watermark Transparency

Upload Who

Upload Time

H381243

2022-09-19 12:24:03

Upload Flag

Upload Flag

H WMS

ASN

ASNNOASN Creation TimeASN StatusASN TypeGoods Owner

ASN23020000041

2023-02-20 10:50:40

Order Created

Cross Dock

123456

ASN23020000035

2023-02-15 17:20:56

Order Created

Purchase Order

VA_89353409

ASN23020000033

2023-02-15 17:09:06

Order Created

Purchase Order

VA_89353409

ASN23020000032

2023-02-15 17:03:07

Order Created

Purchase Order

VA_89353409

Form Details

Attachment

File ID

Upload Who

Upload Time

Upload Flag

Link Type

Warehouse ID

Trace ID

Upload Files

Attachment type

Uploading Files

Please select upload file

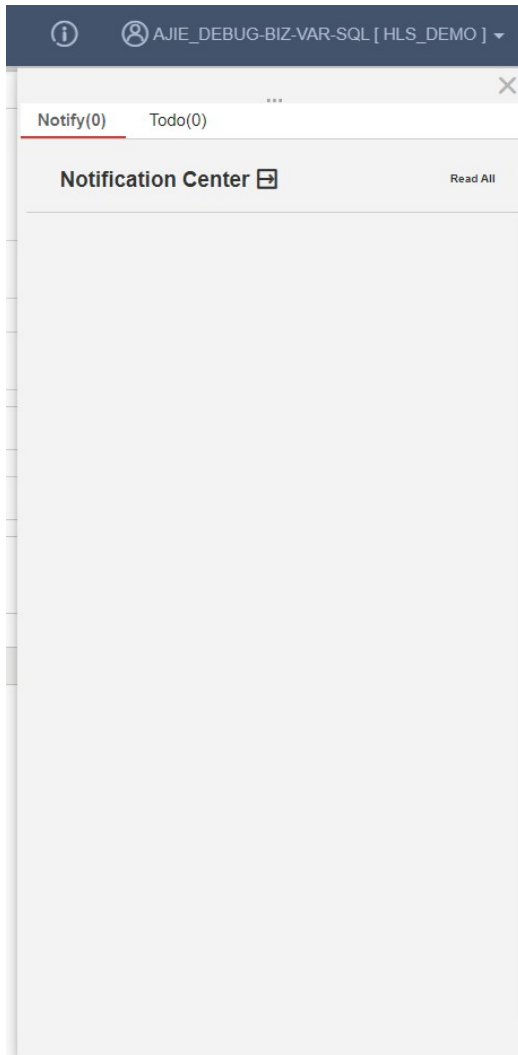
Upload File Type Support:JPG,PNG,PDF,TIF,XLS,XLSX,DOC,DOCX,TXT,RTF,MP3,MP4,TTV,BMP,GIF,RAR,ZI...

Upload Progress: 0%

Upload

Cancel

ALERT & NOTIFICATION MESSAGE



H WMS **Email Template Config**

» + Add Copy Delete Print Operation More...

Template ID	Template Descr	Active Flag
☐ NEAR_EXP	Near Expired Stock	Y
☐ STANDARD	STANDARD	Y

Form Details

Main Info User-defined Other

Template ID: NEAR_EXP Template Descr: Near Expired Stock ☒ Active Flag

Recipients List: koh.jiayin@honeywell.com

CC List:

Email Subject: Fixed theme subject prefix ☐ Early warning description ☐ Dynamic theme

contents Of Annex: Attach Contents Style 16px

Message Body: Hi, Please have attached nearly expired stock list.

PRE & POST LOGIC [SP @ JAVA]

STDBIZ Extend Config

Administrator 001_DEBUG-BIZ-VA

>> + Add Copy - Delete Print Operation Export Edit ...							
☐	Warehouse ID	Function ID	Action Code	Extend Type	Extend LineNO	Execute Sequence	Action Descr
☐	*	C0113	G2P_PA	Preoperation	1	100	Call Shelf
☐	*	C0113	G2P_PABACK	Preoperation	1	100	Return Shelf
☐	*	C0112	G2P_CC	Preoperation	1	100	Call Shelf
☐	*	C0112	G2P_CCBACK	Preoperation	1	100	Return Shelf
☐	*	C0111	G2P_TA	Preoperation	1	100	Call Shelf
☐	*	C0111	G2P_TABACK	Preoperation	1	100	Return Shelf
☐	*	C0110	G2P_PKBACK	Preoperation	1	100	Return Shelf
☐	*	A3525	NEWDELIVERYN...	Preoperation	1	100	Replace Express Company
☐	*	A3518	ERP_INV_BALAN...	Preoperation	1	100	ERP inventory Balance
☐	*	A3014	CHK_BEGIN	Preoperation	1	100	Scan order number in shipment check to call datahub
☐	*	A3014	CHK_NEWDELIV...	Preoperation	1	100	Get delivery number in shipment check
☐	*	A3014	CHK_PACKINGC...	Preoperation	1	100	Call datahub after packing complete in shipment check
☐	*	A3001	SO_CLS	Preoperation	1	100	SO Close
☐	*	A2505	ADJUSTMENT_C...	Preoperation	1	100	ADJ Close
☐	*	A2002	ASN_CLS	Preoperation	1	100	ASN Close

RF CONFIGURABILITY - FUNCTIONALITY

ID
WRF_H5INB01006

Name
Standard Receiving

Status
In Use

M-Desc
Standard Receiving

▼ Texts

Text Box
请输入...

Password

Label

► Widgets

► Buttons

Last Add New Page2/7 Next

SKU
Abc123

SKUDescr
Abc123

PackID Tthi Expected QTY Received QTY
Abc123 Abc123 Abc123 Abc123

Rcv LOC Putawaylocation Holdcode
Abc123 Abc123

UOM UOM Rcvd QTY QTY
Abc123 Abc123 Abc123 Abc123

Confirm Cancel

Field Query Http Hide LOTATT Skip Other Help

Widget No txt1521267843318_line_15212 Widget Type Text Assistbutton(Just Text)
Widget Id TXT_SKU Widget Name SKU 刷新[BUT_REFRESH_6]

Widget Logic Logic+ Http+ Analyze+ Save

Logic-1
AND SKU[TXT_SKU] = Input If-condition
Action --- SKU[TXT_SKU] Echo Please input the SKU.
SetValue +

Logic-2
AND TRUE = Input If-condition
Action --- Echo Input Message Http-4
SetValue +

Analyze-3
SKU Analyze
Paramlist
Operatio HIDE_NULL OR RCV
PARA1 ASN[TXT_ASNN0] OR Input ParamIn-C
PARA2 HIDE_NULL OR Input ParamIn-C
Custome Customer[WXT_CUS] OR Input ParamIn-C
Supplier SupplierID[TXT_SUP] OR Input ParamIn-C
Barcode SKU[TXT_SKU] OR Input ParamIn-C
tion(OK)
SKU[TXT_SKU] + -
tion(ERR)
Music Er SKU[TXT_SKU] Echo Input Message
p-4
Query ASN TO Page

Targeting for Ultimate User Experiences

Standard HTML5 Component

Support Android & Bluetooth Printing





REPORT & DASHBOARD DESIGNING TOOL

A Honeywell Logistics Solutions Presentation

HIGH SCALABILITY - DOCUMENT

22

Template File Id: ASN_INBCHECK_LIST | Template File Descr: [Operational] Standard Print ASN

SimSun | 11 | B | I | U

PageHeader: Honeywell | WMS

ReportHeader:ReportHeader1: ASN Check Sheet

ReportHeader:ReportHeader2: Warehouse ID: [#warehouseId#] ASN No: Customer ID: [#customerId#] PO Number: [#reference1#] Date: [#SystemVar(CurrentDateTime)#] Remarks: [#Note#]

DetailGrid: 0

No	SKU	SKU Description	R.Qty	UOM
[#SystemVar(RowN)]	[#sku#]	[#skuDesc#]	[#RECQTY#]	[#PAC]

PageFooter

Grid++

- Design as per requirement
- Online or offline editing
- Design on format templates
- Support watermark
- Support combination documents
- Support sub-templates
- customer / consignee / carrier etc.

Report Structure:

- Report
 - PageHeader
 - ReportHeader1:ReportHeader
 - ReportHeader2:ReportHeader
 - DetailGrid
 - Columns
 - ColumnContent
 - ColumnTitle
 - Groups
 - Recordset

Report Properties:

Property	Value
CodePage	65001
DesignGrid	True;True;5;5
DocFormat	JSON;Text;UTF-8
Lock	None
ReportInfo	Grid++Report::
Unit	cm
BackColor	White
BackImage	::False;False
Font	SimSun(11)
MoneyLine	12;0.00::

WMS DASHBOARD

23



WMS DASHBOARD

24

Honeywell WMS



WH Overview Dashboard

KPI Dashboard

Outbound Operational Dashboard

Warehouse Utilization



TCL_DEBUG-BIZ-VAR-SQL [PANAMERA]

2200

Total Order Line

439

Pending Order

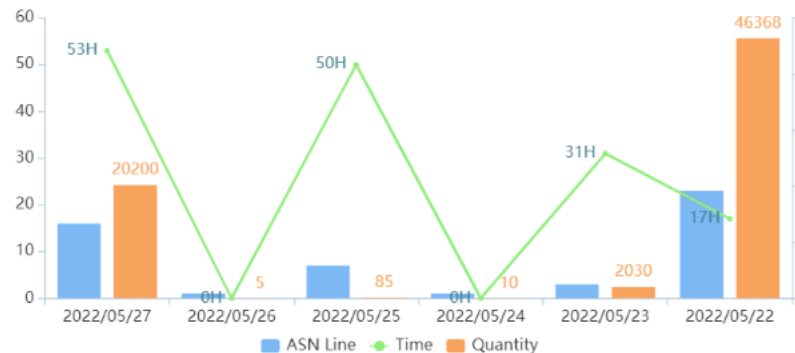
1883

Total Picked

834

Total Shipped

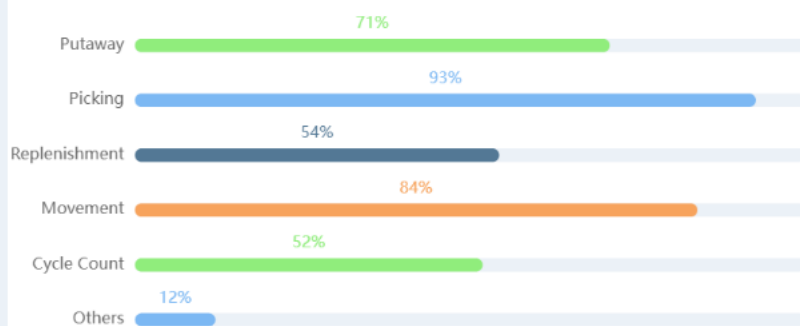
Receiving Time Cycle



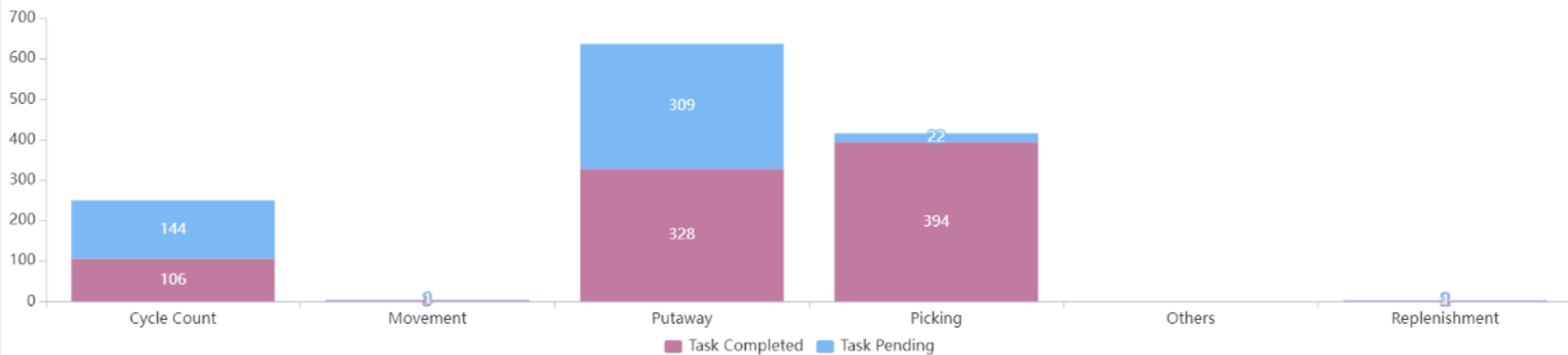
Top 10 Operator

NO	Operator	Task Type	Completed Tasks
1	H334280	PA	244
2	H334280	PK	241
3	H334280	CC	39
4	H354740	PK	32
5	H354740	CC	23
6	H381243	PK	22
7	KRIS	CC	20
8	RF01	PK	20
9	WMSADMIN001	CC	20
10	H386078	PK	17

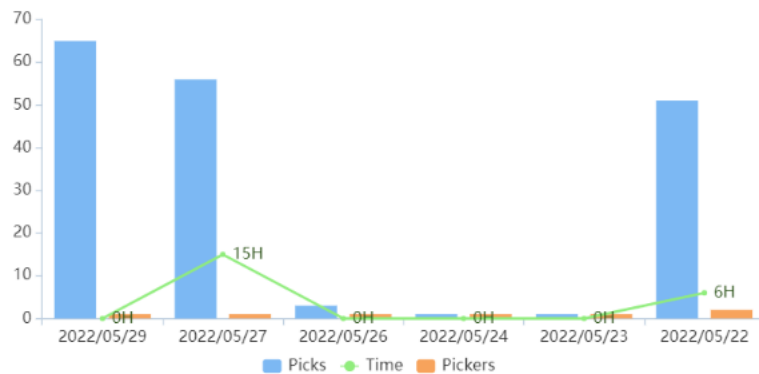
Tasks Productivity



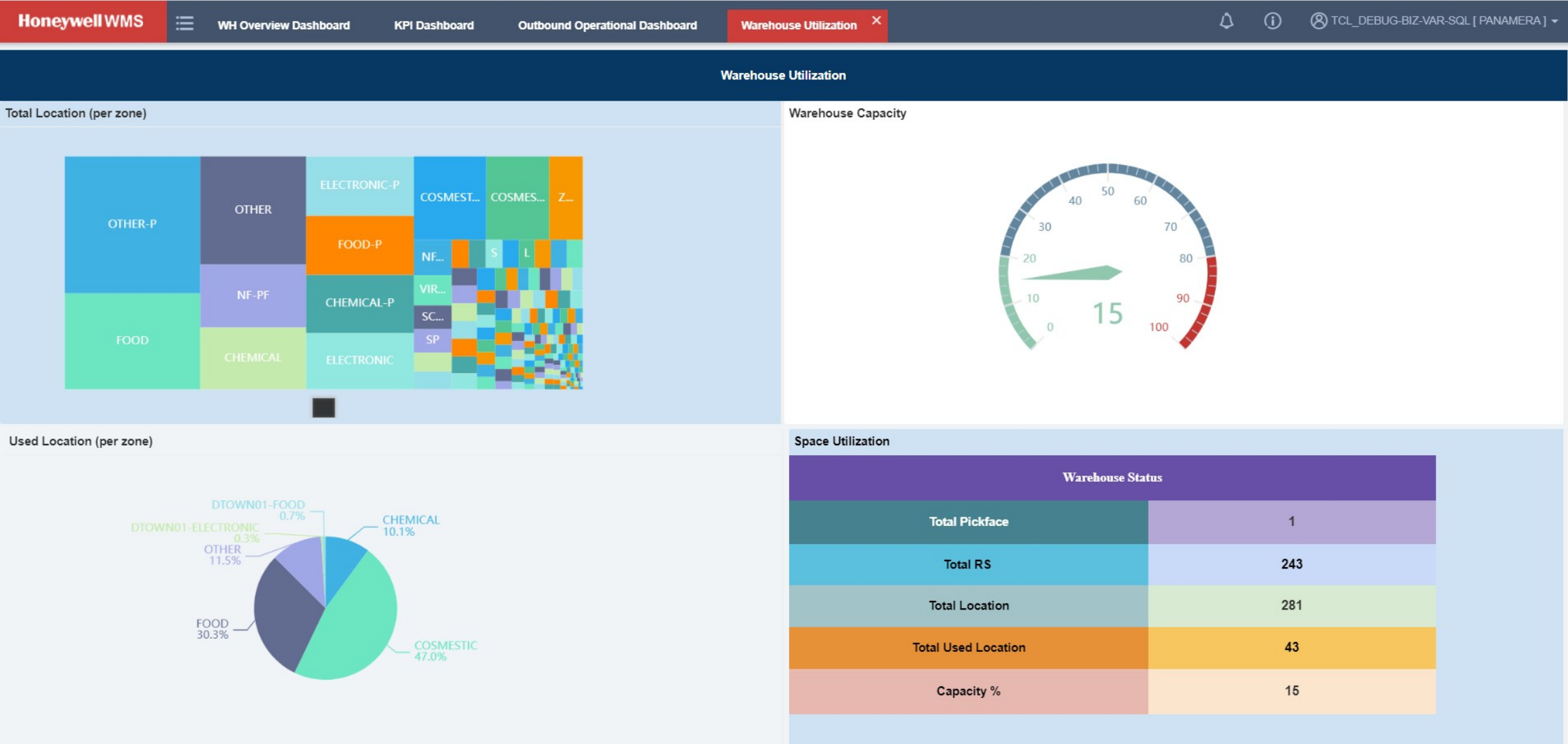
Task Status



Picking Time Cycle



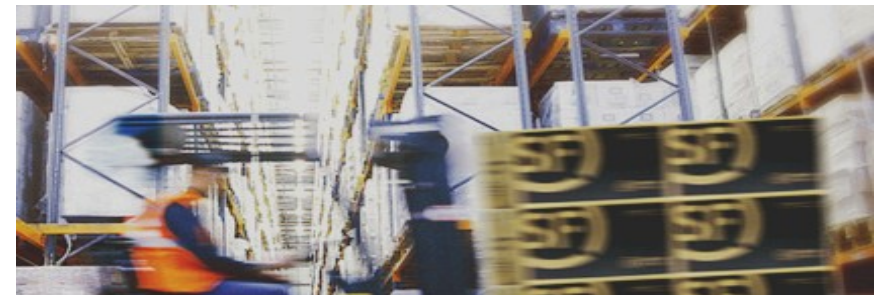
WMS DASHBOARD





3D Experience on Warehouse & Inventory

- Zone, Location and Inventory Status, Quantity in snapshot.
- Based on X,Y,Z Coordination

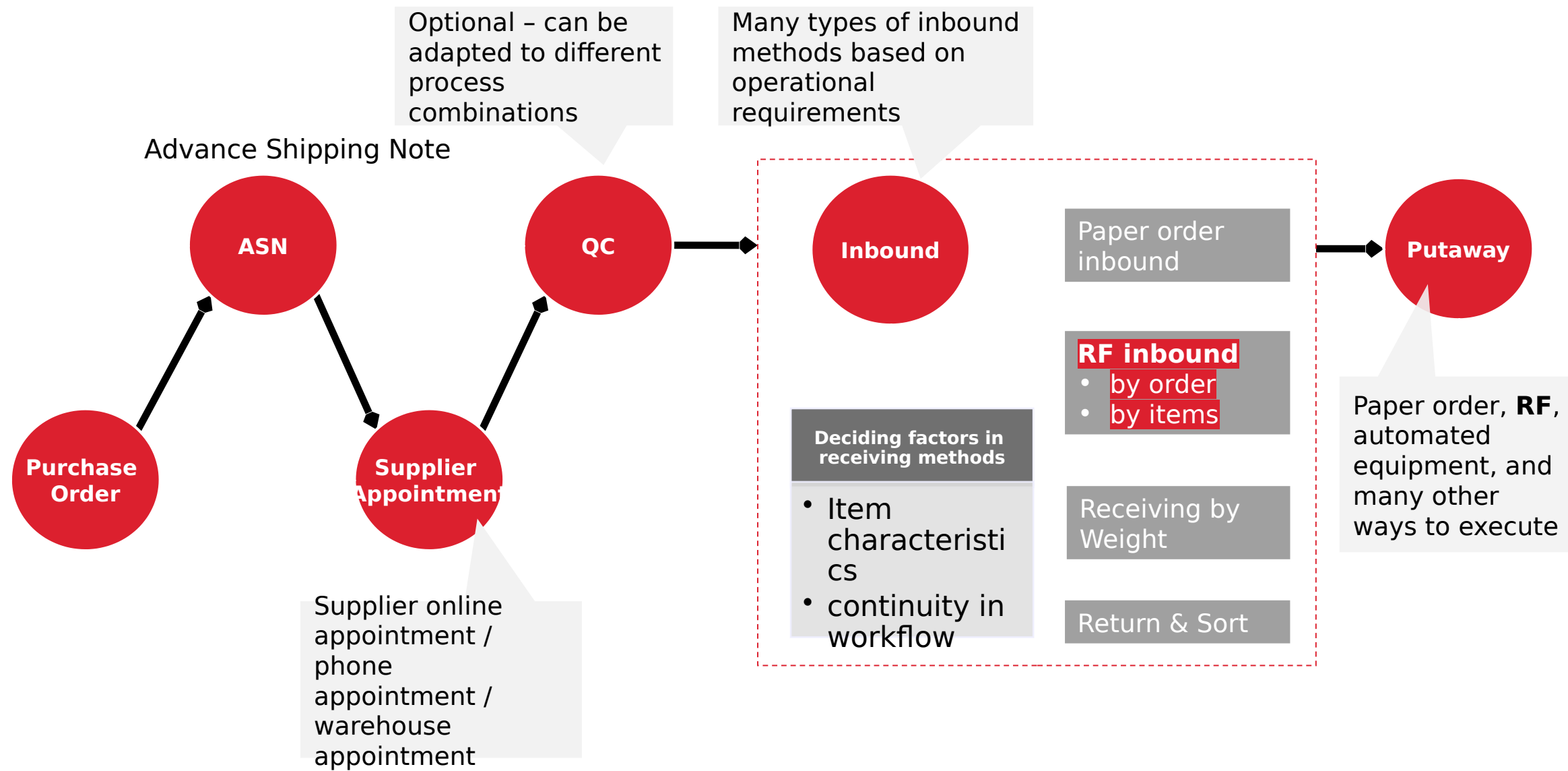




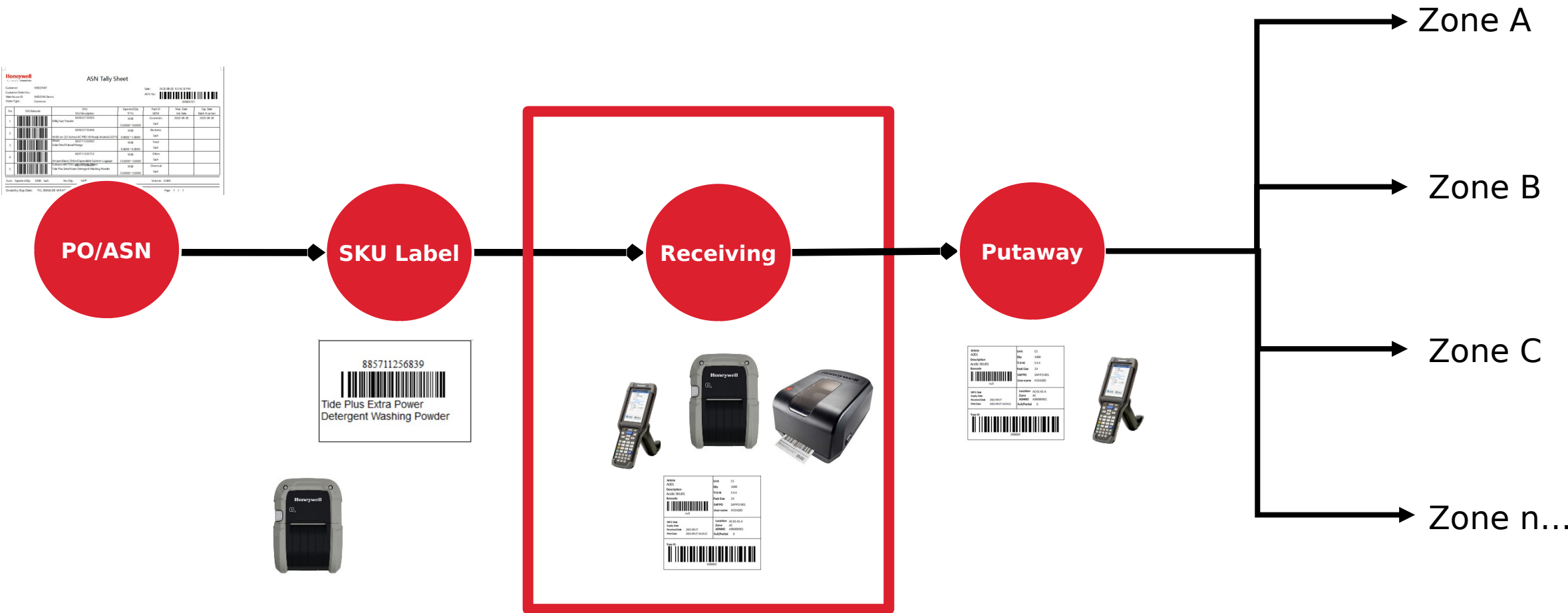
WMS SOLUTION OVERVIEW

Honeywell

INBOUND WORKFLOW



RECEIVING



System Guidance Method

LOT ATTRIBUTE CAPTURING

SKU info

Standard Receiving

[@]Sku
B00001

Sku Descr
SAIGON BEER - 333

Expected Qty (EA)	Rcvd Qty	Rcvng Qty
2400	0	2400

UOM

EA

Qty

2400

Weight

Confirm

Cancel

New Carton

Confirm

Cancel

LOT ID info

Standard Receiving

MAN.DATE

YYYY-MM-DD

EXP.DATE

YYYY-MM-DD

BATCH.NO

LOTATT06

STK.CON

N-Good

Confirm

Cancel

Honeywell WMS
LOT ID x

Main Info | **LOTATT Extend** | User Defined | Other

LOT ID: FEFO | LOT Descr: FEFO | ☒ Active Flag | ☐ LOTATT 5/6 U A B

LOTATT Label	LOTATT Label Rf	RF Show	LOTATT Flag	LOT Type	LOTATT Value	LOT Key	Validation
Production Date	MAN.DATE	☒	Optional	Date			☐
Expiration Date	EXP.DATE	☒	Mandatory	Date			☐
Warehousing Date	RCV.DATE	☒	Mandatory	Date			☐
Batch Number	BATCH.NO	☒	Mandatory	Char			☐
LOTATT05	LOTATT05	☒	Disable	Char			☐
LOTATT06	LOTATT06	☒	Disable	Char			☐
LOTATT07	LOTATT07	☒	Disable	Char			☐
Stock Condition	STK.CON	☒	Mandatory	Char			☐
LOTATT09	LOTATT09	☒	Disable	Char			☐
LOTATT10	LOTATT10	☒	Disable	Char			☐
LOTATT11	LOTATT11	☒	Disable	Char			☐
LOTATT12	LOTATT12	☒	Disable	Char			☐

Example of LOT ID Inventory Attributes

- Production Date
 - Expiration Date
 - Warehousing Date
 - Batch Number
 - Stock Condition
 - Project specific attributes to be tracked in
- Shelf-life validation**

Auto shelf-life calculation

FEFO/FIFO

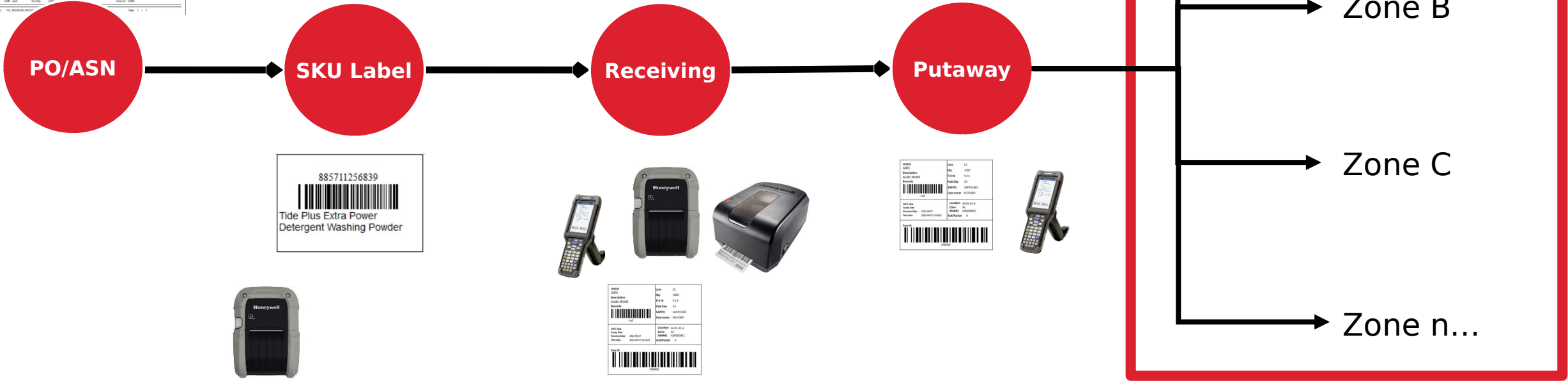
Receive by EA, IP, CS, Pallet

PUTAWAY

Honeywell
ASN Tally Sheet

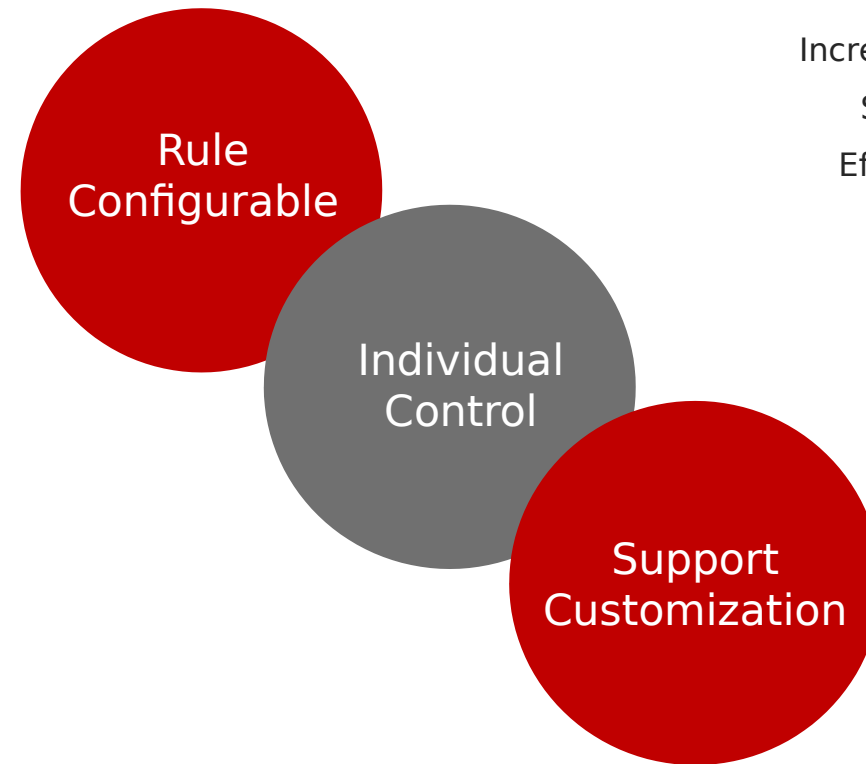
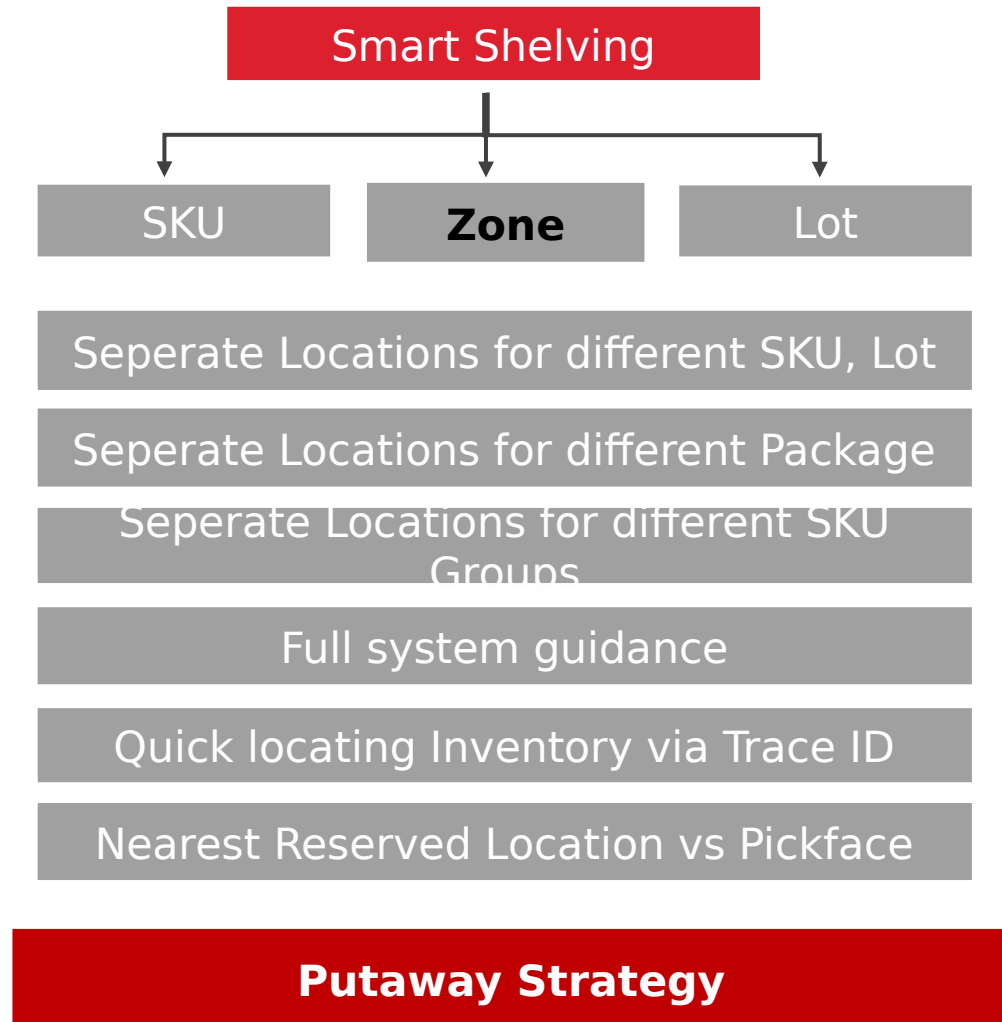
Customer: 10000000000000000000
ASN: 10000000000000000000
ASN Date: 2020-01-01
ASN Time: 10:00:00
ASN Location: 10000000000000000000

ASN	Barcode	Qty	Unit	ASN	Barcode	Qty	Unit
1	885711256839	1	EA	2	885711256839	1	EA
3	885711256839	1	EA	4	885711256839	1	EA
5	885711256839	1	EA	6	885711256839	1	EA
7	885711256839	1	EA	8	885711256839	1	EA
9	885711256839	1	EA	10	885711256839	1	EA
11	885711256839	1	EA	12	885711256839	1	EA
13	885711256839	1	EA	14	885711256839	1	EA
15	885711256839	1	EA	16	885711256839	1	EA
17	885711256839	1	EA	18	885711256839	1	EA
19	885711256839	1	EA	20	885711256839	1	EA
21	885711256839	1	EA	22	885711256839	1	EA
23	885711256839	1	EA	24	885711256839	1	EA
25	885711256839	1	EA	26	885711256839	1	EA
27	885711256839	1	EA	28	885711256839	1	EA
29	885711256839	1	EA	30	885711256839	1	EA
31	885711256839	1	EA	32	885711256839	1	EA
33	885711256839	1	EA	34	885711256839	1	EA
35	885711256839	1	EA	36	885711256839	1	EA
37	885711256839	1	EA	38	885711256839	1	EA
39	885711256839	1	EA	40	885711256839	1	EA
41	885711256839	1	EA	42	885711256839	1	EA
43	885711256839	1	EA	44	885711256839	1	EA
45	885711256839	1	EA	46	885711256839	1	EA
47	885711256839	1	EA	48	885711256839	1	EA
49	885711256839	1	EA	50	885711256839	1	EA
51	885711256839	1	EA	52	885711256839	1	EA
53	885711256839	1	EA	54	885711256839	1	EA
55	885711256839	1	EA	56	885711256839	1	EA
57	885711256839	1	EA	58	885711256839	1	EA
59	885711256839	1	EA	60	885711256839	1	EA
61	885711256839	1	EA	62	885711256839	1	EA
63	885711256839	1	EA	64	885711256839	1	EA
65	885711256839	1	EA	66	885711256839	1	EA
67	885711256839	1	EA	68	885711256839	1	EA
69	885711256839	1	EA	70	885711256839	1	EA
71	885711256839	1	EA	72	885711256839	1	EA
73	885711256839	1	EA	74	885711256839	1	EA
75	885711256839	1	EA	76	885711256839	1	EA
77	885711256839	1	EA	78	885711256839	1	EA
79	885711256839	1	EA	80	885711256839	1	EA
81	885711256839	1	EA	82	885711256839	1	EA
83	885711256839	1	EA	84	885711256839	1	EA
85	885711256839	1	EA	86	885711256839	1	EA
87	885711256839	1	EA	88	885711256839	1	EA
89	885711256839	1	EA	90	885711256839	1	EA
91	885711256839	1	EA	92	885711256839	1	EA
93	885711256839	1	EA	94	885711256839	1	EA
95	885711256839	1	EA	96	885711256839	1	EA
97	885711256839	1	EA	98	885711256839	1	EA
99	885711256839	1	EA	100	885711256839	1	EA



System Guidance Method

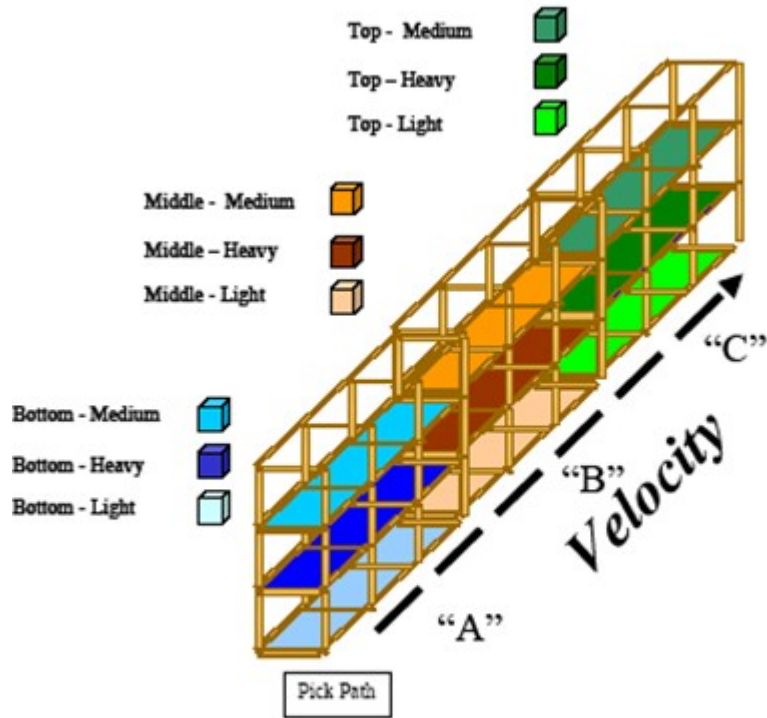
SMART SHELVING – PUTAWAY STRATEGY



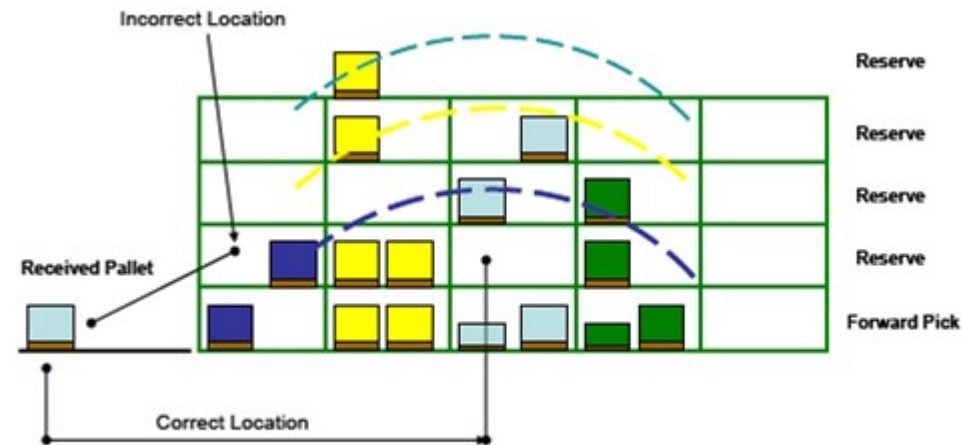
Benefits :

- Increase location Usage
- Storage in order
- Efficient on Picking

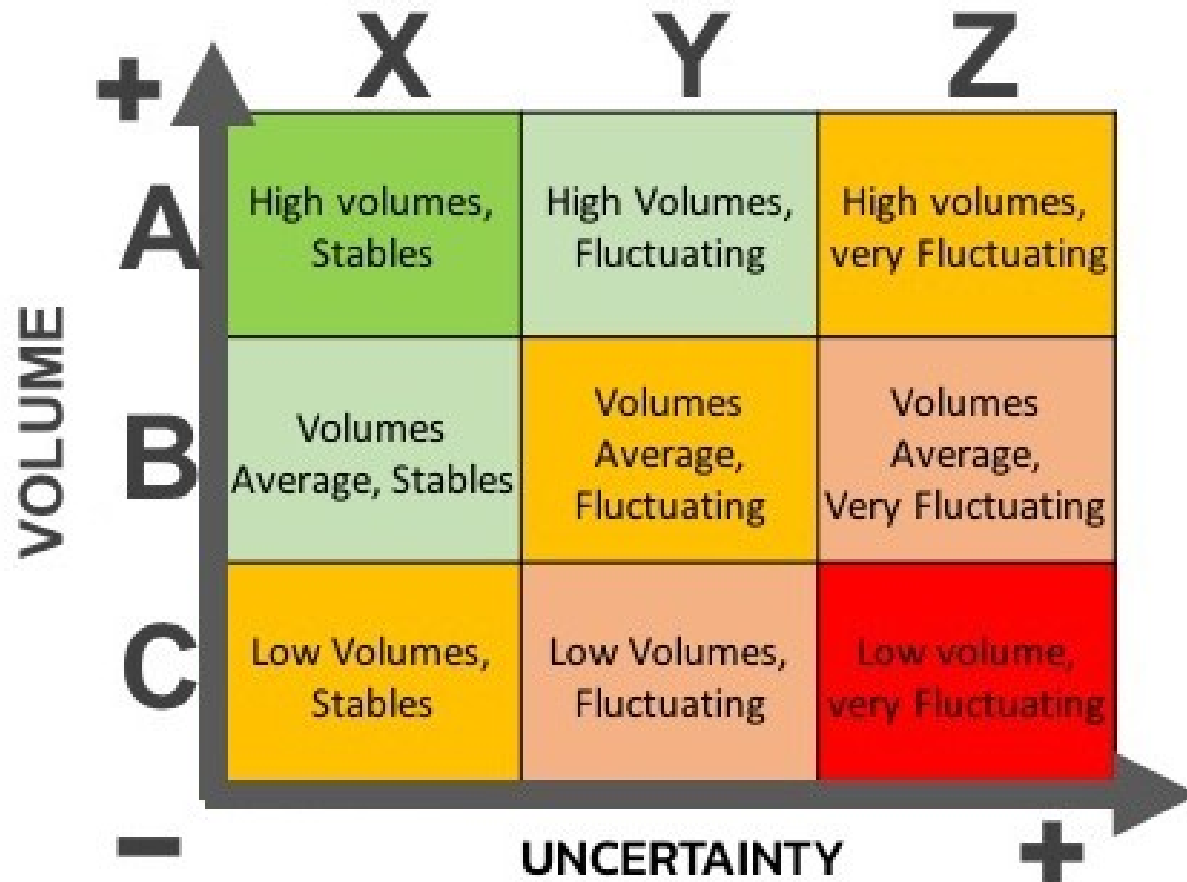
SLOTING | ABC AUTO ASSIGNMENTS



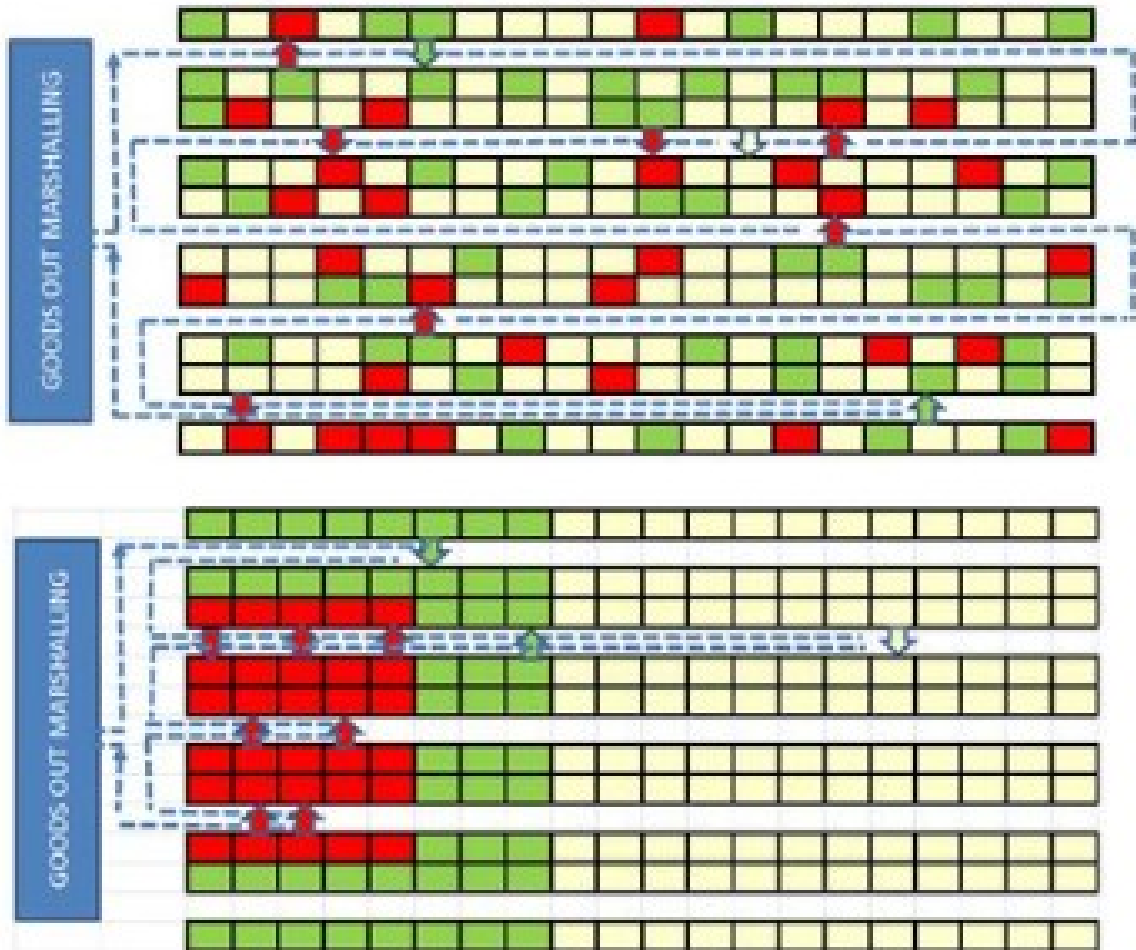
- Customizable Strategies for A, B, C assignment
- Re-Slotting or Exhausting Strategy
- Dynamic Pick Locations
- Rainbow/Radial Putaway



SLOTTING | ABC XYZ PRINCIPLE



SLOTING | ILLUSTRATION OF BENEFIT



	Slotting	Non-Slotting
Journey Time	116	209
Pick Time (10 items @ 7.5 sec)	75	75
Start & End	70	70
Total	<u>261</u>	<u>344</u>

DEMAND REPLENISHMENT & DYNAMIC LOCATION



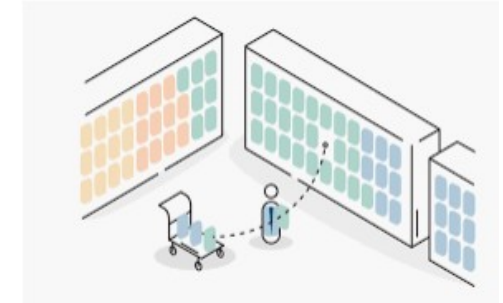
**Order Demand
(Wave Generated)**



Picking



Tram



Dynamic Pick Location

- Group orders with similar criterion eg: Route, Order Type, Priority, etc....
- **Optimize by SKU & Zone** to improve **picking efficiency**.
- System run allocation logic by FIFO/FEFO to check ready stock on shelf, if insufficient will trigger replenishment by demand.
- Suggest to run wave and demand replenishment after cut off time.

- Dynamic picking location can be set up in pick face or on floor.
- Suggest to perform the replenishment before the start of the operation.
- Housekeeping of the inventory after the end of the operation of the day.
- **Reduce** picker travelling time during picking.
- **Maximize** the space in the warehouse.

ROTATION, PRE-ALLOCATION AND ALLOCATION RULE

Rotation rule :

- FIFO
- FEFO
- LIFO

Pre-allocation rule :

- By LOT
- By Packaging

Allocation rule :

- By Location / Zone
- Picking Location / Storage Location
- Full pallet allocation
- By inventory / location status

Honeywell WMS Shipment Order Rotation Rule **Allocation Rule** PRE-Allocation Rule

Loi Khung Long_DEBUG-BIZ-VAR-SQL

Add Copy Delete Print Operation

Allocation Rule ID	Allocation Descr	Over Allocation
☐ ALLOC111	ALLOC111	N Y
☐ ALLOC_MB	Motherboards Alo...	N N
☐ EK_AL	BK_AL	N N
☐ L-02	L-02	N N
☐ L-03	L-03	Y Y
☐ L-04	L-04	N N
☐ L-05	L-05	N N
☐ L-06	L-06	N N
☐ L-07	L-07	Y N
☐ L-08	L-08	N N
☐ L-09	L-09	N N
☐ L-10	L-10	N N
☐ L-11	L-11	Y N
☐ L-12	L-12	Y N
☐ L-13	L-13	N N
☐ L-14	L-14	N N
☐ L-15	L-15	N N
☐ MKMALLOC	MKMALLOC	Y Y
☐ PHARMA	PHARMA	N N
☐ STABDARD	STABDARD	N N
☐ STANDARD	STANDARD	N Y
☐ STANDARD_1MG	STANDARD_1MG	N Y
☐ STD_ALLOC	STD_ALLOC	N N
☐ TEST	Diff from ID	N N

Main Info User Defined Other

Allocation Rule ID Allocation Descr

STABDARD STABDARD

Shift Location

☐ PL Drill Down ☐ CS Drill Down ☐ Bulk Picking EA ☐ Bulk Picking CS

StoreLocation

Allocation Optimization Algorithm

☒ Break Bulk Clearance priority

PickLocation

☐ Over Allocation

Clearance priority

Max Picking efficiency

Normal

Eg: 1 pallet = 60 carton, 1 carton = 24 Pieces)

Sale Order is 1470 qty =>
System will allocate 1 pallet (pallet storage zone)+ 1 carton (pallet storage/case storage zone) + 6 Pieces (piece picking zone)

WAVE PLAN RULES

1. Combine orders with similar operational properties or logical relationship into a lot for picking
2. The logical combination can be triggered by a timer or pre-set conditions
3. For certain e-commerce business models, the system will provide various wave-pick optimization strategy

Configurable interface

Supports multiple combinations of wave-pick strategy

Operating decisions based on actual conditions

Timer controlled wave pick intervals

Wave Pick settings include the following options:

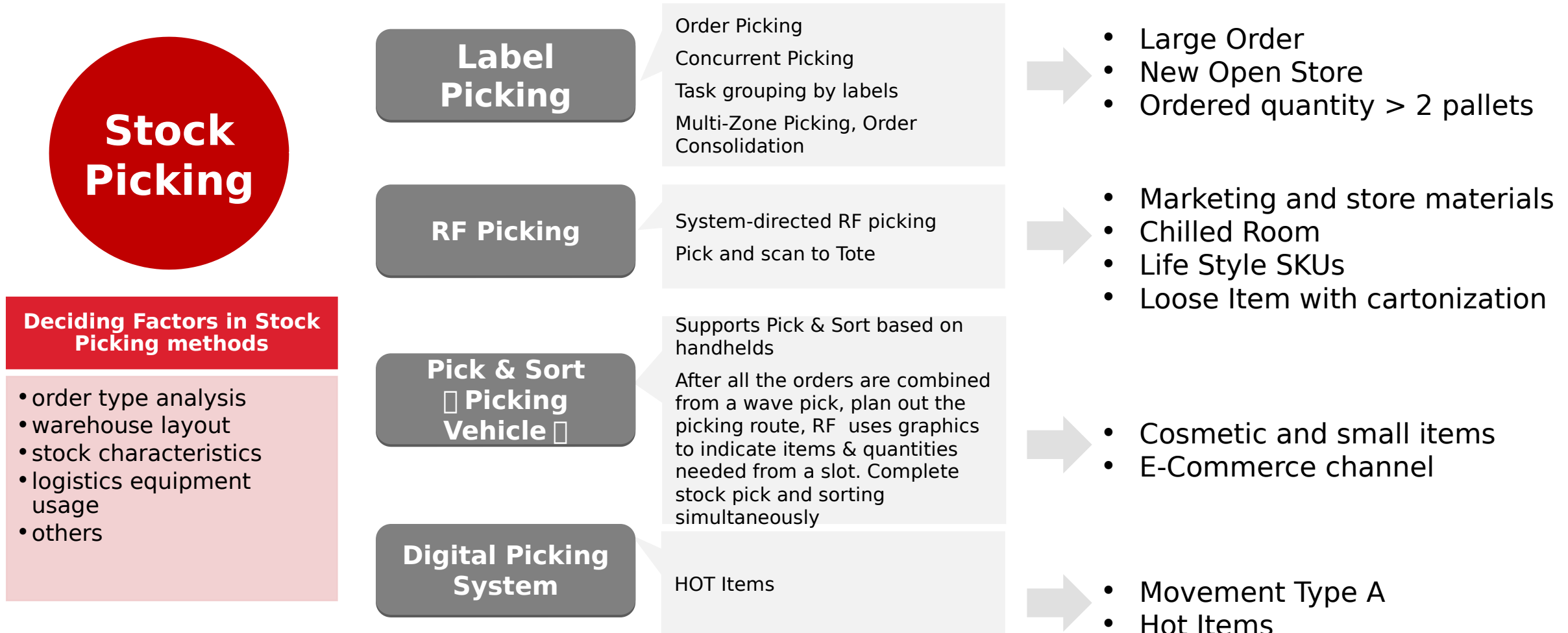
1. Carrier
2. Delivery Method
3. Sales Order type
4. Sales Order priority
5. Sales Order status
6. Routing
7. Number of fixed consignees
8. Upper & Lower limit of Sales Order volume
9. Weight, Volume Limit
10. Sort / No Sort
11. Individual Item order
-

The screenshot shows a software window titled "Wave Plan Rule" with a dark header bar. Below the header, there are tabs: "Main Info", "Order Filter", "Time Frequency", "User-defined", and "Other". The "Main Info" tab is active. The form contains several fields and controls:

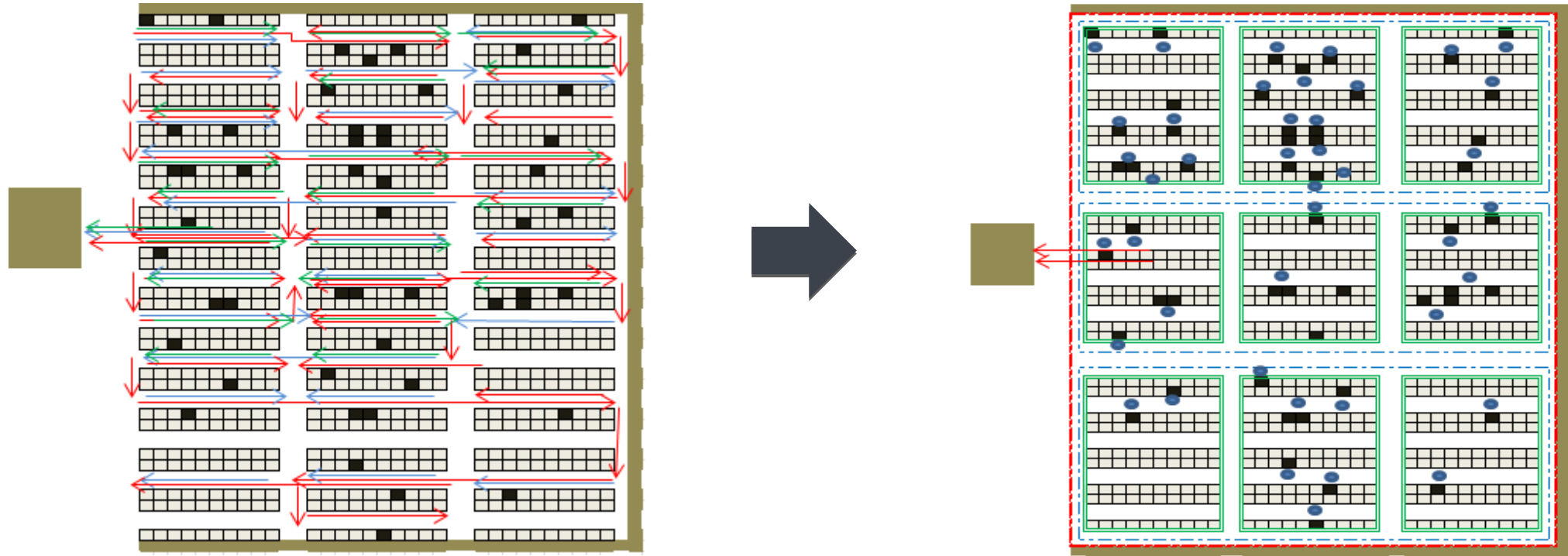
- Wave Rule**: A text input field.
- Wave Descr**: A text input field.
- Customer ID**: A text input field.
- Carrier ID**: A text input field.
- SO Status**: A dropdown menu.
- Transportation**: A dropdown menu.
- Single Match**: A dropdown menu.
- Optimize Type**: A dropdown menu.
- Order Designation Rules**: A section with three dropdowns: "Rotation ID", "Soft Allocation Rule", and "Allocation Rule".
- SEQNO**: A text input field.
- Warehouse ID**: A text input field.
- Priority**: A dropdown menu.
- Route**: A dropdown menu.
- Add Sow TO**: A dropdown menu.
- Assorting Type**: A dropdown menu.
- Last Wave Time**: A text input field with a date/time format "YYYY-MM-DD HH:MM".
- Wave Count**: A text input field.
- Channel**: A dropdown menu.
- Order Type**: A dropdown menu.
- Activation**: Three radio buttons: "Activate" (selected), "Inactive", and "To Activate One".
- Checkboxes**: Four checkboxes at the bottom: "AuDispatch TO", "Pick Light TO", "Link Carton", and "Picking Label".

PICKING OPTIMIZATION

EFFICIENCY IS KEY, HONEYWELL WMS SUPPORTS VARIOUS PICKING MODELS

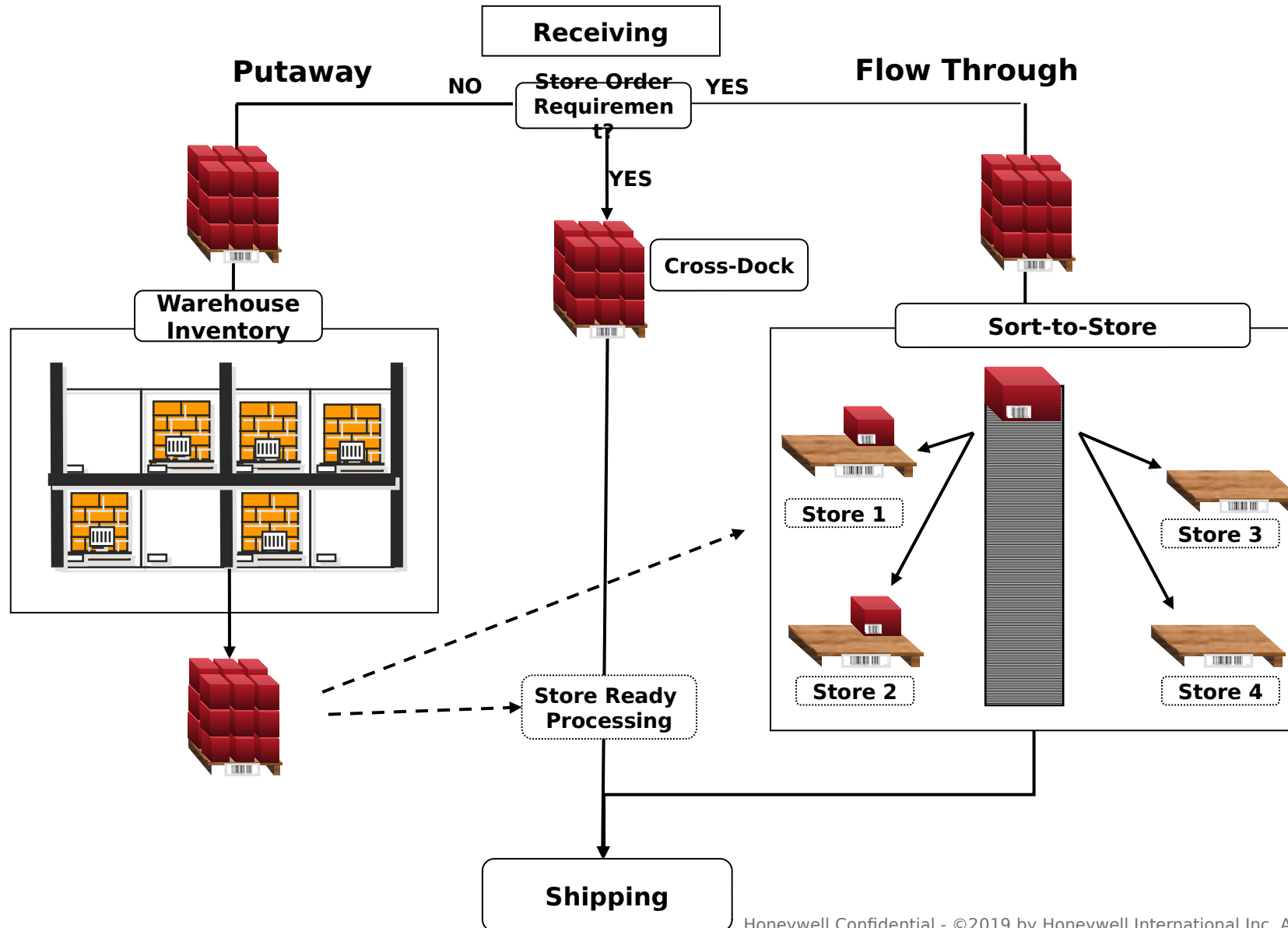


TASK GROUPING – IMPROVE EFFICIENCY

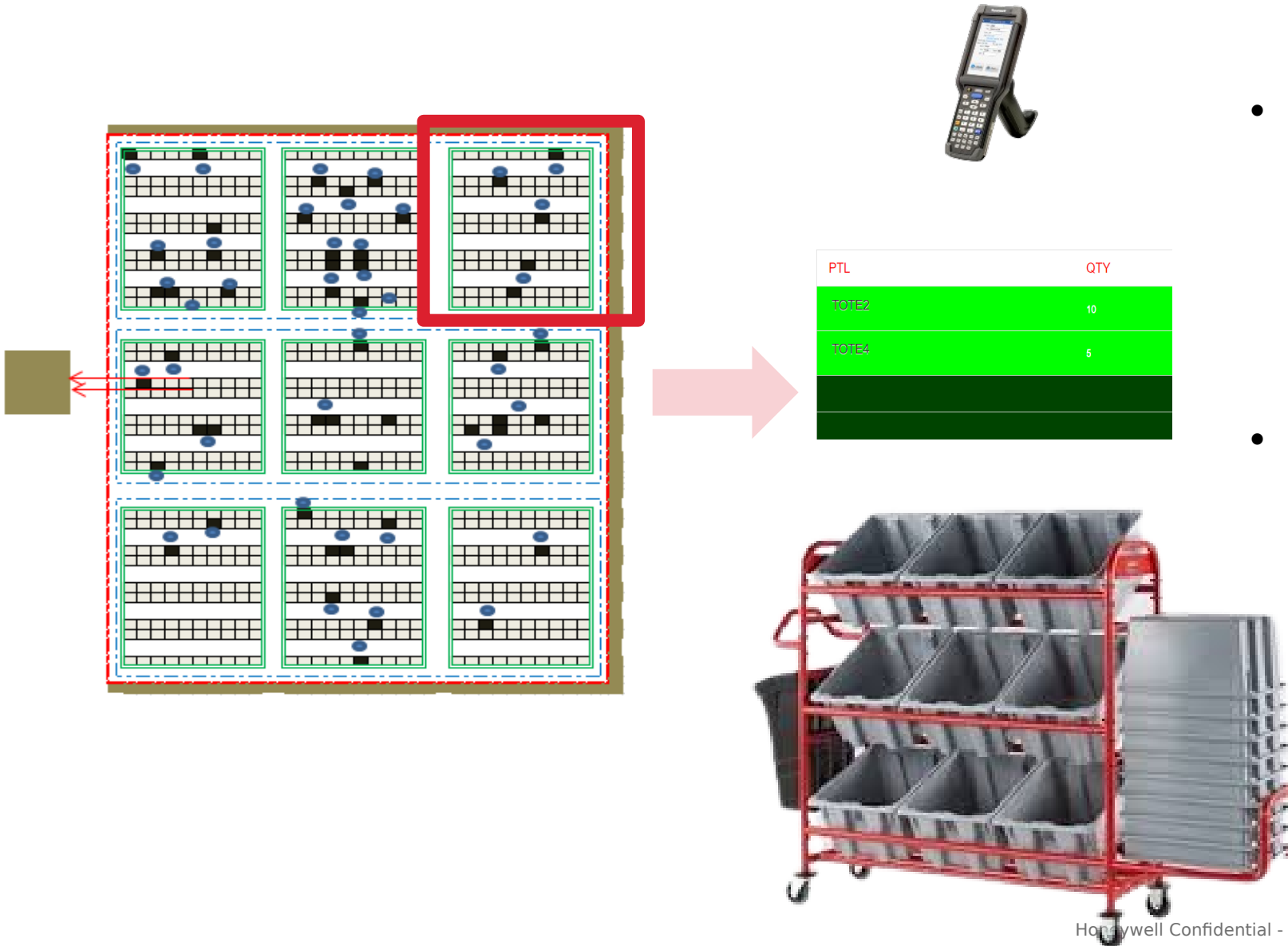


- Reduce walking distance.
- Adjustable zone and task grouping logic.

RETAIL | SORT-TO-STORE (B2B CUSTOMER)



PICK & SORT BOOST THE PICKING EFFICIENCY (B2C)



- **Integrate RF Handheld and apply 'Picking & Sorting' technique**
 - Reduces unproductive walking routes by human workforce
- **Consolidate orders for a single wave with planed picking route**
 - Pick materials from storage locations indicated by the RF handheld
 - RF handheld will visually indicate the Qty for the picking tray of each order

CHECK BY RF



Parcel/Carton stack on cage. Each cage and tote has the unique ID



Scan Cage ID & Picking Tote ID

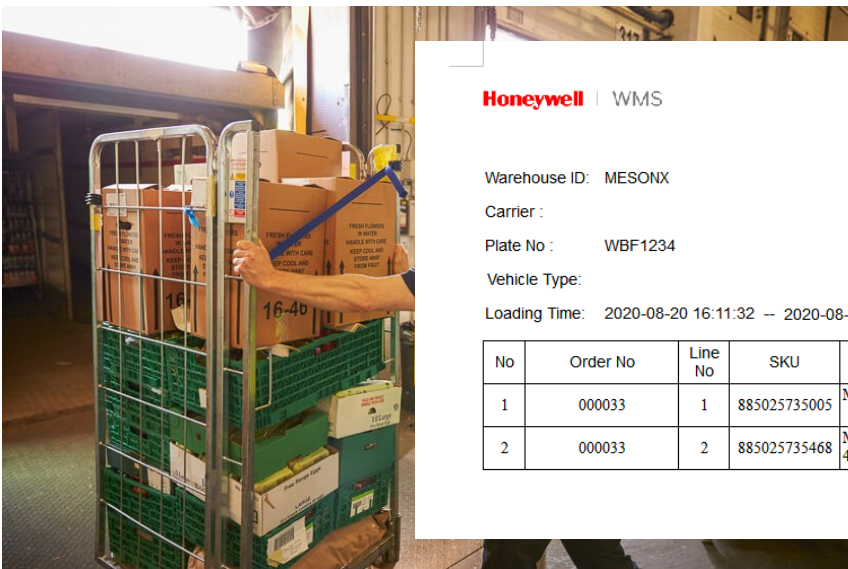
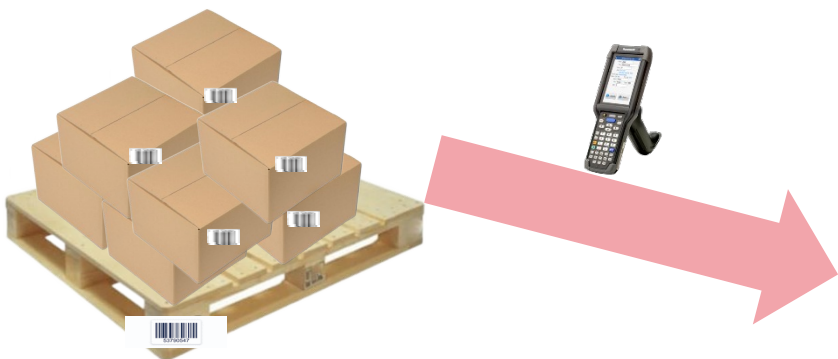


Tote Content	
Item	Qty
Kitkat	2 EA
Mamee	5 EA
Mentos	3 EA
Total	10 EA

Operator check the content in the tote by scanning via RF.

- Each cage/pallet and parcel/carton will have its own unique ID.
- If it is carton check, scan the cage ID then scan SKU code.
- If it is break case check (B2C), scan the bag/container ID (if any) then scan on the airway bill number. (Random Check)
- System can recommend the **percentage of checking**.
- RF **prompt error** if the contents are different from the system.

LOADING BY RF



Honeywell | WMS

Loading List

Date : 08/09/2020 12:49:02 PM

Warehouse ID: MESONX Loaded By:

Carrier : Driver : MR VISI

Plate No : WBF1234

Vehicle Type:

Loading Time: 2020-08-20 16:11:32 -- 2020-08-20 16:12:08

Loading No:



00000005

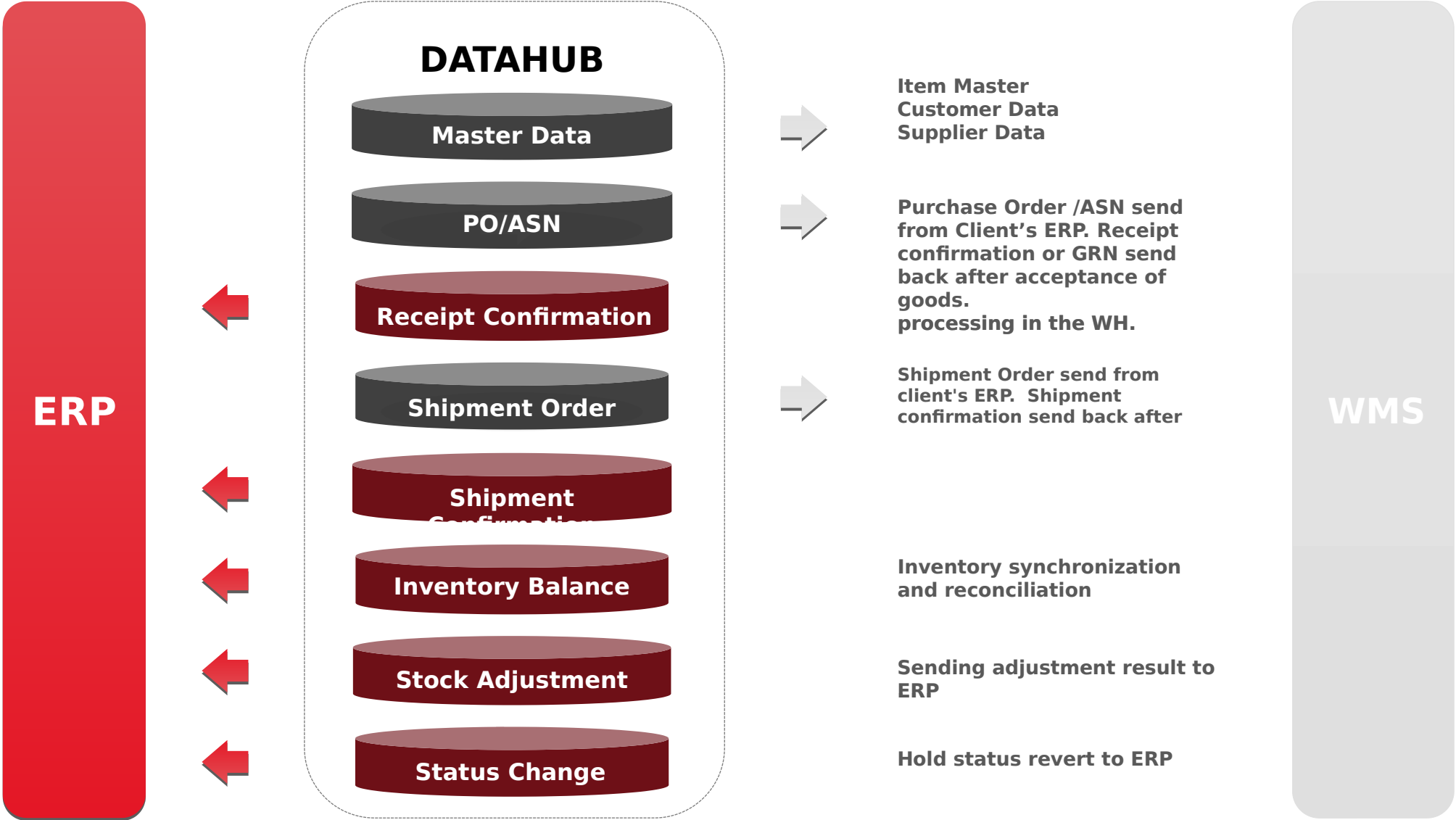
No	Order No	Line No	SKU	SKU Description	Qty				
1	000033	1	885025735005	Milky Face Powder	2				
2	000033	2	885025735468	Mi 80 cm (32 inches) 4C PRO HD Ready	3				



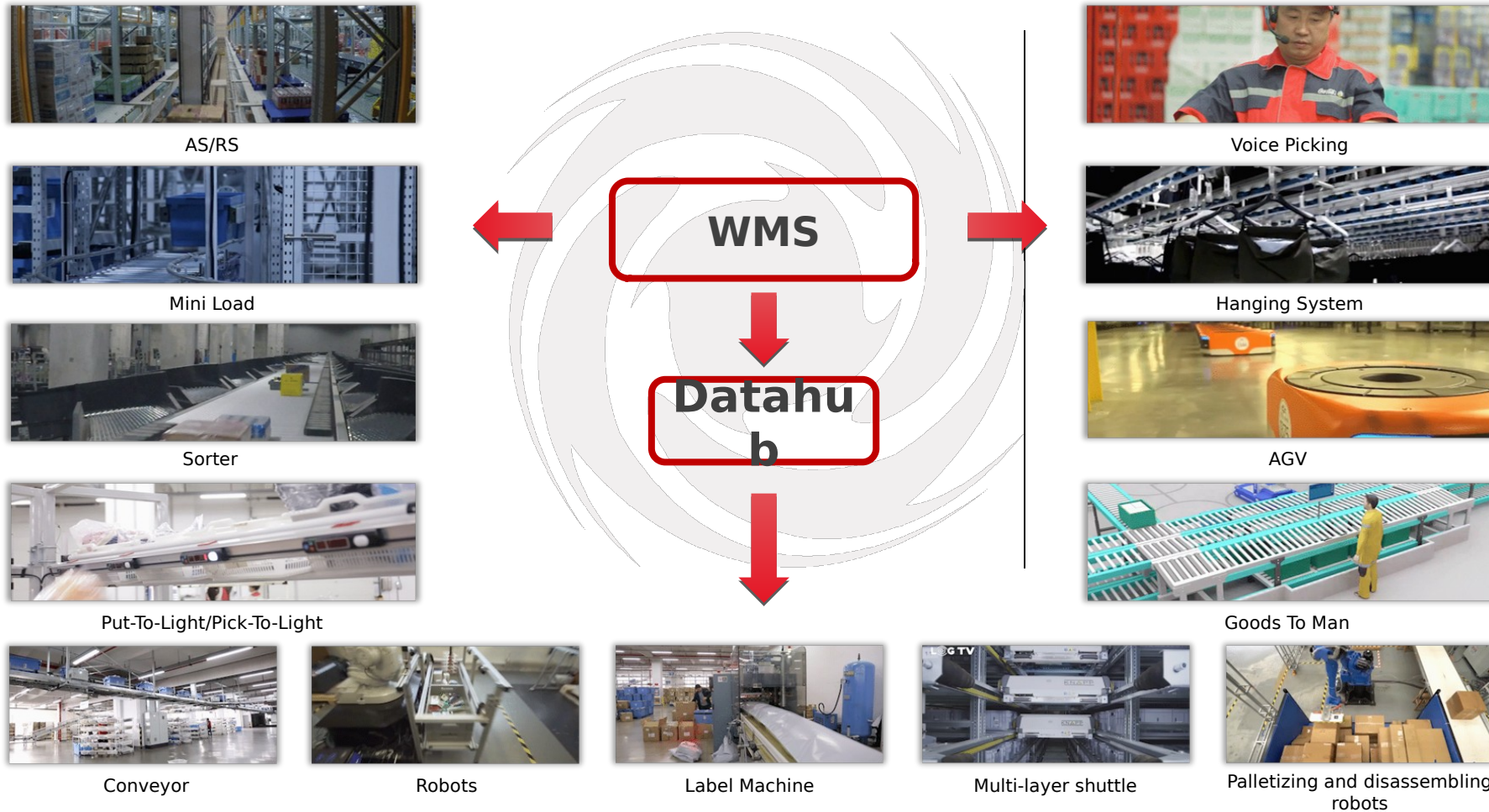
DATAHUB OVERVIEW

Honeywell

Integration with 3rd Party System - Flexibility and Control

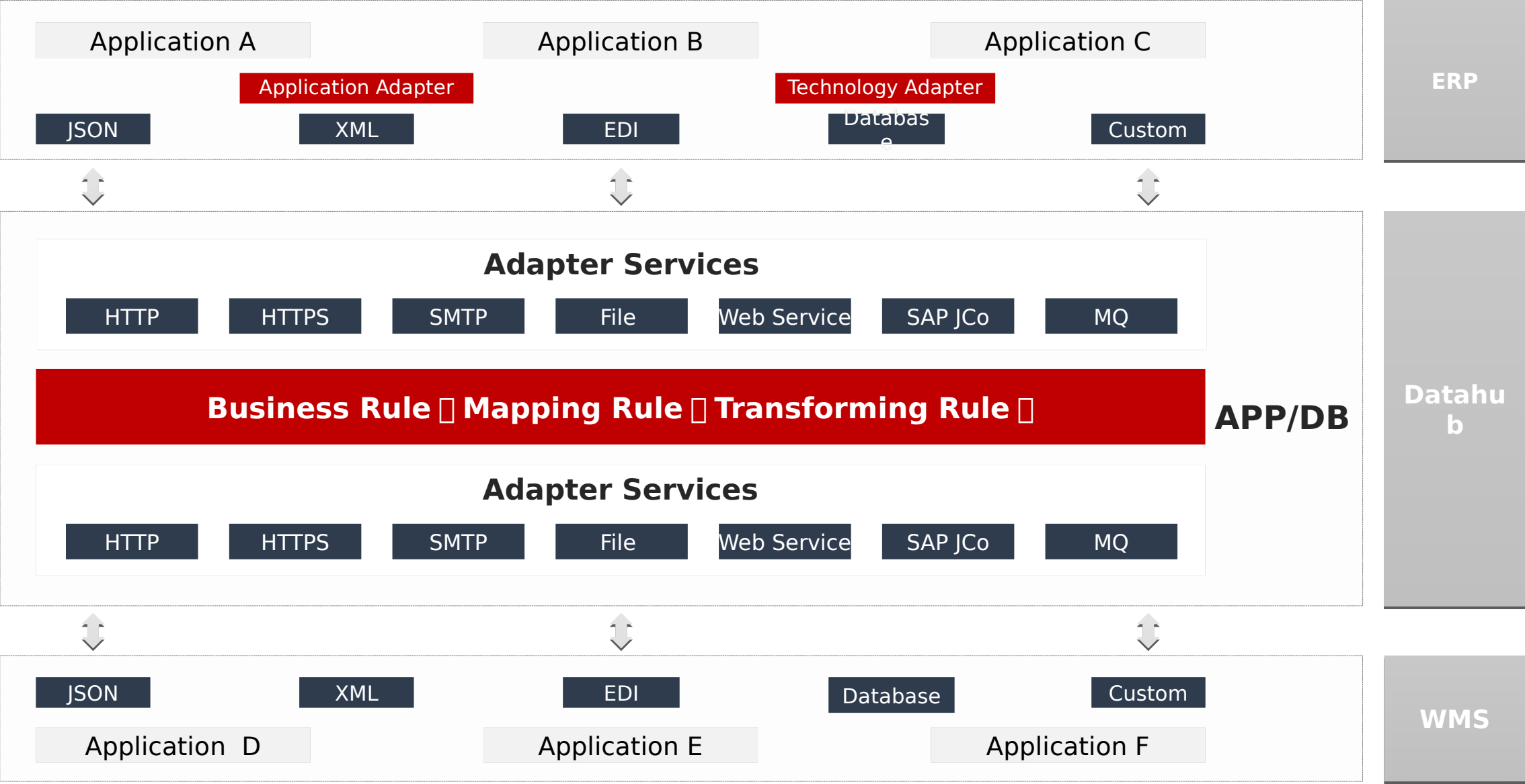


Differentiation - Honeywell WMS & MHE Integration



- ASRS
- Miniload
- Conveyor
- Sorter
- AGV
- Multi-layer Shuttle
- Robot
- Auto Palletizer
- Dynamic Weighting
- 3D measurer
- Voice
- Pick/Put To Light
- RFID
- Video / OCR
- Labeling

DATAHUB Logic Flow

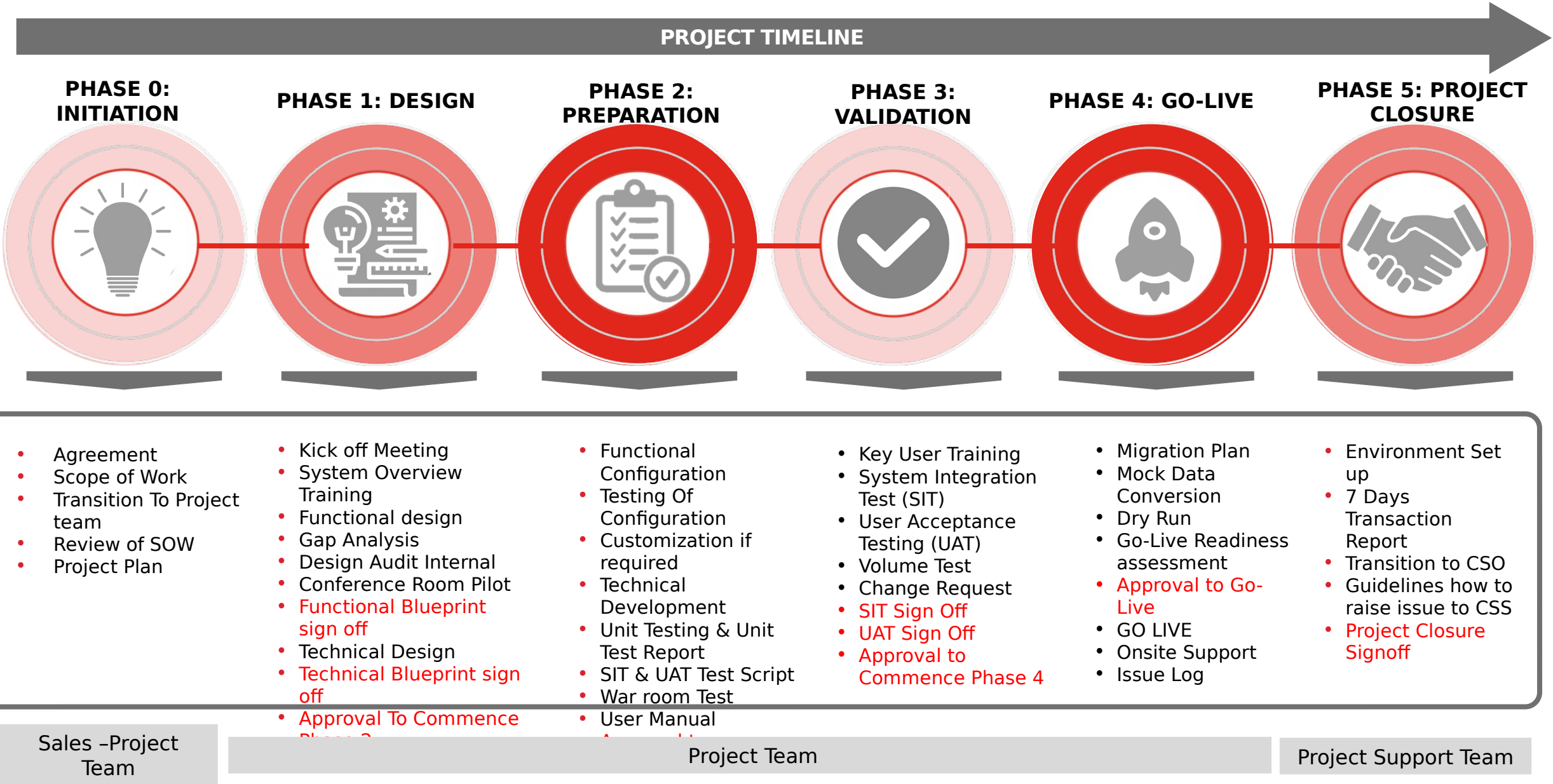




HONEYWELL RESULT DRIVEN METHODOLOGY (HRDM)

Honeywell

HONEYWELL RESULT DRIVEN METHODOLOGY



QUESTIONS AND ANSWERS



NEXT STEPS



THANK YOU.

Honeywell